COMMONWEALTH OF PENNSYLVANIA.

DEPARTMENT OF AGRICULTURE.

BULLETIN No. 149.

TABULATED ANALYSES

OF

COMMERCIAL FERTILIZERS

FROM

SAMPLES SELECTED IN ACCORDANCE WITH ACT OF MARCH 25, 1901.

BY THE

Pennsylvania Department of Agriculture,

FROM JANUARY 1, 1906, to AUGUST 1, 1906.

HARRISBURG, PA.:
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DEPARTMENT OF AGRICULTURE
COMMONWEALTH OF PENNSYLVANIA

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AN ACT

To regulate the manufacture and sale of commercial fertilizers.

Section 1. Be it enacted, &c., That every package of commercial fertilizer sold, offered or exposed for sale, for manurial purposes, within this Commonwealth, shall have plainly stamped thereon the name of the manufacturer, the place of manufacture, the net weight of its contents, and an analysis stating the percentage therein contained of nitrogen in an available form, of potash soluble in water, of soluble and reverted phosphoric acid and of insoluble phosphoric acid: Provided, That any commercial fertilizer sold, offered, or exposed for sale, which shall contain none of the above named constituents shall be exempt from the provisions of this act.

Section 2. That every manufacturer or importer of commercial fertilizers as specified in section one of this act shall, on or before the first day of January next ensuing, or before offering them for sale in this Commonwealth, file annually with the Secretary of Agriculture an affidavit showing the amount of said fertilizer sold within the Commonwealth during the last preceding year; and if the said amount shall be one hundred tons or less, he shall pay to the Treasurer of the State the sum of fifteen dollars for each and every brand of such commercial fertilizer sold within the State during the last preceding year; and if the said amount shall exceed one hundred tons, and be less than five hundred tons, he or they shall pay the sum of twenty dollars, as aforesaid; and if the said amount shall be five hundred tons or more, he or they shall pay the sum of thirty dollars, as aforesaid. If such manufacturer or manufacturers, importer or importers, shall not have made any sales within the Commonwealth during the preceding year, he or they shall pay the sum of fifteen dollars, as aforesaid. Every said manufacturer shall, at the same time, file with the Secretary of Agriculture a copy of the analysis required by section one of this act, and shall then be entitled to receive from the Secretary of Agriculture a certificate showing that the provisions of this act have been complied with.

Section 3. The Secretary of Agriculture is hereby empowered to collect samples of commercial fertilizers, either in person or by his duly qualified agent or representative, and to have them analyzed, and to publish the results for the information of the public.

Section 4. The Secretary of Agriculture, and such assistants, agents, experts, chemists, detectives and counsel as he shall duly authorize for the purpose, shall have full access, ingress and egress to all places of business, factories, farms, buildings, carriages, cars

and vessels, used in the manufacture, transportation or sale of any commercial fertilizer. They shall also have power to open any package or vessel containing or supposed to contain any commercial fertilizer, and take therefrom samples for analysis upon tendering the value of said samples.

Section 5. Any person selling, offering, or exposing for sale, any commercial fertilizer without the analysis required by section one of this act, or with an analysis stating that it contains a larger percentage of any one or more of the above named constituents that is contained therein, or for the sale of which all the provisions of section two have not been complied with, shall be guilty of misdemeanor, and on conviction shall forfeit a sum not less than twenty-five and not exceeding one hundred dollars for the first offense, and not less than two hundred dollars for each subsequent offense. It shall be the duty of the Secretary of Agriculture to enforce the provisions of this act, and all penalties, costs and fines recovered shall be paid to him or his duly authorized agent, and by him be immediately paid into the State Treasury, to constitute a special fund to be used in accordance with the provisions of section six of this act.

Section 6. The money paid into the Treasury under the provisions of this act shall constitute a special fund, from which the cost of selecting samples, making analyses, and other expenses incident to the carrying into effect the provisions of this act, shall be paid: Provided, That the total amount thus expended shall in no case exceed the amount paid into the Treasury.

Section 7. The term "commercial fertilizers," as used in this act, shall be taken to mean any and every substance imported, manufactured, prepared or sold for fertilizing or manuring purposes, except barnyard manure, marl, lime and wood ashes, and not exempt by the provisions of section one of this act.

Section 8. This act shall go into effect on and after the thirty-first day of December, one thousand nine hundred and one. All acts or parts of acts inconsistent with this act are hereby repealed, except that existing laws are to continue in force until this act goes into effect.

Approved—The 25th day of March, A. D. 1901.

LETTER OF SUBMITTAL.

State College, Centre County, Pa.,
July 14, 1906.

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Hon. N. B. Critchfield, *Secretary of Agriculture, Harrisbury, Pa.:*

Dear Sir: I have the honor to submit the following report, giving the results of analysis of the fertilizer samples received during the spring of 1906 from the official sampling agents, together with a prefixed discussion of the results obtained.

Very respectfully,

WM. FREAR,
Chemist.

https://archive.org/details/tabulatedanalyse00penn_22

FERTILIZER VALUATIONS—1906.

The object of an official valuation of commercial fertilizers is to enable the consumer to judge approximately whether he has been asked to pay for a given brand more than the fertilizing ingredients it contains and market conditions prevailing at the time would warrant. It is clear, therefore, that no attempt is made in this valuation to indicate whether the fertilizer valued possesses a greater or less crop-producing capacity than another fertilizer; but only whether it is higher priced than another of the same general composition.

For this purpose it must be so computed as to include all the elements entering into the cost of a fertilizer as it is delivered to the consumer. These elements may be conveniently grouped as follows:

1. The wholesale cost of the ingredients.

2. The jobbers' gross profit on the sale of the ingredients; this includes office expenses, advertising, losses, etc.; for the purpose of the present computation it may be assumed that the sum of this gross profit and the wholesale cost of the ingredients, is equivalent to the retail price of the single ingredients near the wholesale markets in ton lots of original packages for cash.

3. The expense and profit of mixing: This item applies only to complete fertilizers, rock and potash, and ammoniated rock; not to dissolved or ground bone, or to dissolved rock.

4. The expense and profit of bagging.

5. Agents' commission: This item includes not only the commission proper, but every advance in price due to the sale of the goods through an agent in small quantities on time, rather than directly to the consumer in ton lots for cash.

6. Freight from the wholesale market to the point of delivery.

The valuations for 1905 were based:

1. Upon the wholesale prices from September 1, 1904, to March 1, 1905, of the raw materials used in fertilizer manufacture, the quotations of the New York market being adopted for all materials except acidulated phosphate rock and ground bone.

2. Upon an allowance of 20 per cent. of the wholesale prices, above mentioned, to cover jobbers' profit.

By adding the 20 per cent. allowed for jobbers' gross profit to the wholesale price of the several raw materials, the retail price in original packages at the jobbers' warehouse is obtained.

Since the amount of the several valuable fertilizing constituents in the various raw materials is known, it is a simple matter to determine the corresponding retail value per pound of the valuable fertilizing constituents yielded by each raw material. A schedule of these pound values affords a convenient basis of computation of the value per ton of various fertilizers, whose composition is ascertained by analysis.

The values assigned, for the present, to the other elements in the cost of the fertilizer at the point of a delivery are:

3. For mixing, $1.00 per ton.

4. For bagging, $1.00 per ton, in all cases except those in which the article was sold in original packages; the cost of the package being, in such cases, included in the wholesale price.

5. For agents' commissions, 20 per cent. of the cost of the goods f. o. b. at the jobbers' or mixers' warehouse.

6. For freight, $2.00 per ton; the cost of the freight in lots of twelve tons or over, from the seaboard to Harrisburg, averaging $1.88 per ton.

The following valuation of dissolved South Carolina rock illustrates the method.

Phosphoric acid.	Per cent.	Weight per ton.	
Soluble,	11.50	230 lbs. at 3c.	$6 90
Reverted,	2.50	50 lbs. at 2½c.	1 25
Insoluble,	1.00	20 lbs. at 1½c.	30
Retail cash value of ingredients,			$8 45
Bagging,			1 00
Cash value of goods ready for shipment,			$9 45
Agents' commission, 20 per cent.,			1 89
Freight,			2 00
Commercial value per ton,			$13 34

It is not to be expected, of course, that the valuations thus computed will precisely represent the fair price to be charged for a brand in each locality and in every transaction. Market conditions, competition, distance from factory, all introduce minor variations. Nevertheless, to make the approximation reasonably close the average valuation of a given class of goods ought to agree closely with its ascertained average selling price. Whenever such an agreement is no longer obtained by the use of a schedule, it is evident that the schedule of retail values of the constituents, or the added allowances for mixing, etc., requires revision.

It is needful to note here another factor greatly affecting the practical accuracy of these approximations. Their computation would offer little difficulty and their usefulness be far greater, if, by the ordinary methods of analysis, the exact nature of the ingredients used to supply the several fertilizer constituents, were capable of certain determination. This is, however, possible, to-day, to only a limited extent. The valuations are, therefore based on the assumption that the fertilizers are uniformly compounded from high quality ingredients, such as are commonly employed in the manufacture of fertilizers of the several classes. Consumers should carefully avoid the error of accepting such valuations as infallible; they are not designed to be used for close comparisons of single brands, but only to indicate whether the price asked for a fertilizer is abnormal, assuming good quality for the ingredients used. From this it is clear that, except as high freights may require, the selling price of a brand should not far exceed the valuation; but that a fertilizer may be made of inferior materials and yet have a high valuation.

The valuations used during 1904 were modified for use during 1905 in accordance with the changes in wholesale prices of fertilizing ingredients and to make the valuations more closely follow the selling price.

The following comparative statement shows the valuations and selling prices of the several classes of fertilizers during 1901 to 1905:

Fertilizers.	Number of samples.	Valuation.	Selling price.	Difference of valuation from selling price.
Spring, 1901.				
Complete,	291	24.76	23.92	0.84
Rock-and Potash,	60	14.60	16.20	—1.60
Dissolved bone,	1	29.00	28.00	1.00
Ground bone,	44	28.71	27.59	1.12
Dissolved rock,	49	13.51	13.90	—0.39
Fall, 1901.				
Complete,	179	23.75	22.28	1.47
Rock-and-potash,	42	14.23	16.09	—1.86
Dissolved bone,	5	23.36	23.91	—0.55
Ground bone,	33	27.69	25.94	1.75
Dissolved rock,	49	13.82	13.18	0.64
Spring, 1902.				
Complete,	289	25.33	24.10	1.23
Rock-and-potash,	66	15.05	16.45	—1.40
Dissolved bone,	2	17.35	16.50	.85
Ground bone,	29	26.80	28.52	—1.72
Dissolved rock,	59	13.49	13.73	—.24
Fall, 1902.				
Complete,	229	23.31	21.83	1.48
Rock-and-potash,	62	14.46	15.98	—1.52
Dissolved bone,	6	27.08	25.30	1.78
Ground bone,	27	27.51	28.09	—.58
Dissolved rock,	56	13.70	13.47	.23
Spring, 1903.				
Complete,	365	24.29	24.57	—.28
Rock-and-potash,	82	14.73	17.20	—2.47
Dissolved bone,	3	30.87	31.17	—.30
Ground bone,	27	27.25	28.67	—1.42
Dissolved rock,	56	13.34	15.13	—1.79
Fall, 1903.				
Complete,	264	22.77	21.98	.79
Rock-and-potash,	74	14.86	15.96	—1.10
Dissolved bone,	11	24.57	23.67	.90
Ground bone,	49	27.07	27.52	—.45
Dissolved rock,	60	13.12	14.64	—1.52
Spring, 1904.				
Complete,	349	25.07	24.28	.79
Rock-and-potash,	75	15.45	16.47	—1.02
Dissolved bone,	2	28.42	31.50	—3.08
Ground bone,	22	27.77	28.20	—.43
Dissolved rock,	41	14.06	14.59	—.53
Fall, 1904.				
Complete,	256	22.53	21.82	.71
Rock-and-potash,	68	14.92	15.89	—.97
Dissolve bone,	6	27.77	24.94	2.83
Ground bone,	38	27.97	27.02	.95
Dissolved rock,	45	14.09	13.89	.20
Spring, 1905.				
Complete,	374	25.60	24.63	.97
Rock and potash,	82	15.49	16.11	—.62
Dissolved bone,	3	22.70	23.83	—1.13
Ground bone,	27	26.72	29.08	—2.36
Dissolved rock,	47	13.86	13.64	.22
Fall, 1905.				
Complete,	285	22.35	21.39	.96
Rock and potash,	74	15.04	15.97	—.97
Dissolved bone,	6	25.85	24.78	1.11
Ground bone,	35	28.70	27.70	1.00
Dissolved rock,	49	13.51	12.21	1.30

The general tendencies of the wholesale market may be judged from the following comparative statement, obtained from the weekly reports of the Oil, Paint and Drug Reporter, of New York City, showing the average wholesale prices of fertilizer raw materials from September 1, 1904 to March 1, 1905, and from September 1, 1905, to March 1, 1906.

Wholesale Prices of Fertilizer Ingredients, New York, Oil, Paint and Drug Reporter.

Substance.	Amount priced.	Average price September 1, 1904 to March, 1905.	Average price September 1, 1905 to March, 1906.	Prices September to March, 1905-6, in per cent. of prices, 1904-5.
Sulphate of ammonia,	Cwt.,	3.1367	3.1253	99.6
Nitrate of soda	Cwt.,	2.3116	2.2278	96.4
Dried blood, H. G.,	Unit (20 lbs.),	2.5933	2.6538	102.3
Concentrated tankage,	Unit (20 lbs.),	2.3376	2.2161	94.8
Rough bone,	Ton,	16.25	15.96	98.2
Bone meal,	Ton,	22.875	22.57	98.7
Fish guano, dry,	Unit (20 lbs.),	*2.543	*2.5536	100.4
Fish guano, acid,	Unit (20 lbs.),	†2.20	†2.331	106.0
Refuse bone black, oil,	Ton,	13.65	14.00	102.6
Refuse bone black, sugar,	Ton,	.....	18.00	.....
Phosphate rock, Charleston,	Ton,	6.00	5.125	85.4
Phosphate rock, Tennessee,	Ton,	3.75	3.87	103.2
Acid phosphate,	Unit (20 lbs.),	.6375	.6375	100.0
Double manure salts,	Cwt.,	1.134	1.18	104.0
Sulphate of potash,	Cwt.,	2.1288	2.20	103.3
Kainit,	Ton,	9.21	8.50	92.3
Muriate of potash,	Cwt.,	1.9006	1.965	103.4
Sulphuric acid, 66 Deg. B.,	Cwt.,	1.346	1.20	89.2

*Bone phosphate of lime 10 cents per unit.
†Bone phosphate of lime 35 cents per unit.

In ammoniates such as dried blood and fish guano, the unit is of ammonia, of which 82.35 per cent. is nitrogen; in acid phosphates, the unit is of phosphoric acid (phosphorus pentoxid).

With the exception of dried blood and fish guano which have advanced in price, the nitrogenous materials show a decrease from last year's prices.

The most marked changes occur in case of concentrated tankage and nitrate of soda.

The following data are from the monthly reports of Thos. J. White & Co., fertilizer brokers, Baltimore, Md., giving wholesale quotations upon ammoniates.

Wholesale Prices of Ammoniates: Reports of Thos. J. White & Co., Baltimore, Md.

	Prices March, 1904-5. to September	Prices March, 1905-6. to September
Sulphate of ammonia, per cwt.,	3.1208	3.125
Nitrate of soda,	2.2896	2.203
Ground blood, f. o. b. Chicago, per unit of ammonia,	2.6042	2.4893
Concentrated tankage, f. o. b. Chicago, per unit of ammonia,	2.3416	2.2125
Crushed tankage c. a. f. Baltimore, per unit ammonia:		
9 per cent. ammonia, 20 per cent. bone phosphate,	2.575	*2.6125
Unground tankage f. o. b. Chicago, per unit of ammonia:		
9 per cent. ammonia, 20 per cent. bone phosphate,	*2.17	*2.10
Ground tankage f. o. b. Chicago, per unit of ammonia:		
11 per cent. ammonia, 15 per cent. bone phosphate,	2.275	†2.312
10 per cent. ammonia, 20 per cent. bone phosphate,	2.35	†2.25
8 per cent. ammonia, 30 per cent. bone phosphate,	.....	‡2.15
Hoof meal f. o. b. Chicago, per unit of ammonia,	2.4225	§2.45

*September quotations lacking.
†Bone phosphate of lime 10 cents.
‡September and October quotations only.
§September, February and March quotations.

New York wholesale quotations for acid phosphate, per unit of available phosphoric acid, remained the same as last year.

Quotations from the Journal of Commerce issue a value of $.318 per lb. of available phosphoric acid which is also unchanged from 1905.

Early this year acid phosphate was quoted to inquirers in Rhode Island, Connecticut, Massachusetts and New Jersey at about the same retail price as last year.

Potash Salts:—The reports of the U. S. Bureau of Statistics show the following entries for consumption during the fiscal year 1904 and 1905.

	1904.	1905.
Muriate (pounds),	161,503,735	202,366,601
Kieserit, kainit, etc.,	158,984	240,789

This trade is so managed that by March nearly all wholesale deliveries of the year are contracted for. The prices for potashes for 1905 as announced by the German Potash Syndicate show no changes from last years quotations. The schedule of prices on the basis of large lots sold through brokers and delivered at Boston, New York or Philadelphia, is as follows:

Salt.	March, 1905.	After March, 1905.
Muriate, 80 per cent., per 100 lbs.,	1.885	1.915
Sulphate, 48 per cent. potash, per 100 lbs.,	2.17	2.20
Double manure salt, 48-50 per cent., per 100 lbs.,	1.15	1.18
Kainit, 12.4 per cent., actual potash, per ton,	8.25	8.50
Manure salt, 20 per cent potash, per ton,	14.68	15.08

Composition of Raw Materials.—In order to form a correct idea of the cost per pound of the fertilizer constituents of these materials, it is needful to determine their composition or, in other words, the quantities of valuable constituents each contain. The following table shows the composition of the raw materials used in the manufacture of fertilizers. No analyses of these materials, with the exception of ground bone and dissolved rock, have been made in Pennsylvania. The figures in the following table include the averages of the results of analyses made in Connecticut, New Jersey and Massachusetts during the past year, except in the case of ground bone and dissolved rock phosphates, where Pennsylvania results alone are included.

Composition of Non-Acidulated Fertilizer Ingredients. (Per cent.)

	Number of samples analyzed.	Nitrogen.	Potash.	Total phosphoric acid.
Sulphate of ammonia,	1	20.42	.....	.....
Nitrate of soda,	28	15.55	.....	.....
Dried blood,	12	10.97	.....	.....
Ground bone,	62	3.12	.....	22.78
Tankage,	14	6.13	.....	14.46
Ground fish,	14	8.29	.....	7.62
Cotton seed meal,	157	7.03	1.90	3.15
Castor pomace,	4	4.70	1.00	1.90
Sulphate of potash, H. G.,	6	.....	49.66	.....
Muriate of potash,	16	.....	51.29	.....
Kainit,	1	.....	12.49	.....
Double sulphate of potash and magnesia,	7	.....	26.68	.....

Composition of Acidulated Fertilizer Ingredients. (Per cent.)

	Number of samples analyzed.	Total phosphoric acid.	Soluble phosphoric acid.	Reverted phosphoric acid.	Insoluble phosphoric acid.
Dissolved bone-black,	3	16.74	11.95	3.06	1.73
Dissolved bone,*	9	14.60	4.27	5.92	4.42
Dissolved rock phosphate,	96	15.86	9.75	4.75	1.36

*Also contains 1.90 per cent. nitrogen.

Cost per pound of Fertilizer Constituents.—With the composition of these raw materials and their price per ton, hundred weight, or other unit of measure as a basis, the wholesale cost per pound of the valuable constituents can be readily calculated. In many cases the ammoniates are quoted "per unit of ammonia," the term unit being equivalent to per cent.; in goods sold by the ton of 2,000 lbs., the unit is equal to 20 lbs., and 20 lbs. of ammonia contain 16.47 lbs. of nitrogen.

In the case of refuse bone-back, unacidulated, the mean, 28.25 per cent. of phosphoric acid, is assumed to represent the average material on the market.

Phosphate rock is sold by the ton of 2,240 lbs., and on the basis of the bone phosphate of lime it contains, with drawbacks for injurious constituents. Bone-phosphate of lime contains 45.8 per cent. of phosphoric acid; therefore, each per cent. of bone phosphate in a long ton is equivalent to 22.4 lbs. and contains 10.26 lbs. of phosphoric acid.

In the wholesale trade, dried blood, azotine, concentrated tankage and hoof meals are usually sold on the basis of ammonia, disregarding the phosphoric acid present.

Insoluble phosphoric acid in dissolved rock is likewise omitted from consideration, contracts being based solely upon the "available" phosphoric acid; nor in rock phosphates is any claim made for the small quantities of nitrogen and potash they contain, nor in dissolved bone for the potash present.

Under these conditions, the wholesale cost per pound in New York of the valuable constituents of such materials as furnish but a single fertilizing element, these materials being assumed to be in the state of preparation and in the packing in which the manufacturer purchased them, are given in the following table; also a figure representing a fair retail price at the factory, the materials having undergone no change in treatment or packing and the allowance for expenses and profit in retailing being 20 per cent.

Wholesale Cost Per Pound of Fertilizer Constituents. (New York.)
1. Ingredients Supplying One Constituent.

Material.	Constituent valued.	Wholesale price—Cents.	Wholesale price plus 20 per cent.
Sulphate of ammonia,	Nitrogen,	15.30	18.36
Nitrate of soda,	Nitrogen,	14.33	17.20
Dried blood, high grade,	Nitrogen,	16.11	19.33
Concentrated tankage,	Nitrogen,	13.43	16.12
Refuse bone black:			
Oil,	Phosphoric acid, total,	2.48	2.99
Sugar,	Phosphoric acid, total,	3.19	3.83
Phosphate rock:*			
Tennessee, 78 per cent.,	Phosphoric acid, total,	.515	.618
South Carolina, 60 per cent.,	Phosphoric acid, total,	.670	.804
Acid phosphate,	Phosphoric acid available,	3.19	3.83
Double manure salts,	Potash,	4.43	5.32
Sulphate of potash,	Potash,	4.52	5.42
Muriate of potash,	Potash,	3.75	4.50
Kainit,	Potash,	2.97	3.56

*The prices of phosphate rock are f. o. b. at the respective points of shipment, not New York, and are taken from the reports of the Engineering and Mining Journal. The prices for potash are taken from the schedule of the syndicate. The prices for concentrated tankage are taken from the reports of Thos. J. White & Co., and those of the remainder from the Oil, Paint and Drug Reporter.

The quotations for bone are given without specific reference to quality, so that it is impossible from these data to fairly apportion their several wholesale values to the nitrogen and phosphoric acid contained in this material. As compared with tankage, the general tendency is to assign a higher commercial rating to the phosphoric acid in bone and to the nitrogen a rating not very different from that given in tankage. The quotations of Thos. J. White & Co. show an average wholesale rate in Baltimore during September, 1904, to March, 1905, for crushed tankage to have been 2.6125 per unit of ammonia and $0.10 per unit of bone phosphate of lime. This is equivalent to $3.17 per unit of nitrogen and $0.218 per unit of phosphoric acid. The average composition of the ground bone and bone meal samples analyzed last fall in Pennsylvania was: Phosphoric acid, 22.59 per cent.; nitrogen, 2.96 per cent. The prepared bone contains less fat and moisture and often less nitrogen than the ordinary "rough bone," but these differences tend, in a manner, to neutralize each other.

Assuming for the rough bone quoted in the New York market the same composition as the bone meal sold in Pennsylvania and for the value of the nitrogen $3.17 per unit, the values per pound of the several constituents would be:

Wholesale Cost per Pound of Fertilizer Constituents, New York.
II. Bone.

	Constituent valued.	Wholesale price.	Wholesale price plus 20 per cent.
Rough bone,	Nitrogen,	15.85	19.02
	Phosphoric acid,	1.46	1.75
Ground bone,	Nitrogen,	22.41	26.89
	Phosphoric acid,	2.06	2.47

Valuation in Neighboring States.

It is desirable, from all points of view, that the schedules of valuation throughout a district in which similar market conditions prevail, should differ as little as possible. It has been our practice in the past, to conform our schedule to that adopted after very careful cooperative study of market conditions for each year, by the New England States and New Jersey, except where the peculiar conditions of our markets have made the valuations diverge too largely from the actual selling prices, as in the case of ground bone and dissolved rock phosphates. The schedules for these States for 1905 and 1906 are as follows:

Trade Values Adopted by the New England States and New Jersey.

	Cents per pound.		Values in 1906 in per cent. of those of 1905.
	1905.	1906.	
Nitrogen:			
In ammonia salts,	17½	17½	100
In nitrates,	17.0	16½	97.1
In dry and fine ground fish,	18½	18½	100
In meat, blood and mixed fertilizer,	18½	18½	100
In fine ground bone and tankage,	18.0	18.0	100
In coarse bone and tankage,	13.0	13.0	100
Phosphoric acid:			
Water soluble,	4½	4½	100
Citrate soluble,	4.0	*4.0	100
In cotton seed meal, castor pomace, fine ground fish and wood ashes,	4.0	4.0	100
In fine bone and tankage,	4.0	4.0	100
In coarse bone and tankage,	3.0	3.0	100
In mixed fertilizers, insoluble,	2.0	2.0	100
Potash:			
In forms free from muriate,	5.0	5.0	100
As muriate,	4¼	4¼	100

*Except in New Jersey, where owing to the legal requirements of methods which indicate a less quantity of citrate soluble than is obtained by use of the official method a valuation of 4½ cents per pound has been adopted.

For reasons often stated in previous reports, conditions in Pennsylvania require a separate valuation of dissolved rock and ground bone from that obtained in neighboring states. On comparing the valuations of these two classes of goods with these selling prices during the past fall, and also in consideration of the steadiness of their wholesale quotations, the 1905 rate of valuations will be continued for 1906.

Schedule of Values for Fertilizer Ingredients, 1906.

	Cents per pound.
Nitrogen:	
In ammonia salts,	17½
In nitrates,	16½
In meat, dried blood and mixed fertilizers,	18½
In cotton seed meal and castor pomace,	16½
In fine ground bone and tankage,	14
In coarse bone and tankage,	12
Phosphoric acid:	
Soluble in water, in bone fertilizers,	4½
Soluble in water, in rock fertilizers,	3
Soluble in ammonium citrate, in bone fertilizers,	4
Soluble in ammonium citrate, in rock fertilizers,	2½
Insoluble in ammonium citrate, in bone fertilizers,	2
Insoluble in ammonium citrate, in rock fertilizers,	1½
In fine bone, tankage and fish,	3
In coarse bone and tankage,	2½
In cotton seed meal, castor pomace and wood ashes,	4
Potash:	
In high grade sulphate or in forms free from muriate,	5
As muriate,	4¼

Potash in excess of that equivalent to the chlorin present, will be valued as sulphate, and the remainder as muriate.

Nitrogen in mixed fertilizers will be valued as derived from the best sources of organic nitrogen, unless clear evidence to the contrary is obtained.

Phosphoric acid in mixed fertilizers is valued at bone phosphoric acid prices, unless clearly found to be derived from rock phosphate.

Bone is sifted into two grades of fineness: Fine, less than 1-50 inch in diameter; coarse, over 1-50 inch in diameter.

The result obtained by the use of this schedule does not cover the items of mixing, bagging, freight and agents' commission. To cover these, allowances are made as follows:

For freight, an allowance of $2.00 per ton on all fertilizers.

For bagging, an allowance of $1.00 per ton on all fertilizers, except when sold in original packages.

For mixing, an allowance of $1.00 per ton on complete fertilizers and rock-and-potash goods.

For agents' commission, an allowance of 20 per cent. is added to the cash value of the goods ready for shipment.

FERTILIZER ANALYSES JANUARY 1, TO AUGUST 1, 1906.

Since January 1, 1906, there have been received from authorized sampling agents twelve hundred and fifty-three fertilizer samples, of which six hundred and five were subject to analysis, the remainder being rejected either because they represented brands analyzed last season, or because they were regarded as not certainly representative of the brand whose name they bore. When two or more samples representing the same brand were received equal portions from the several samples were united and the composite sample was subjected to analysis.

The samples analyzed group themselves as follows, 285 complete fertilizers, furnishing phosphoric acid, potash and nitrogen; 6 dissolved bones furnishing phosphoric acid and nitrogen; 74 rock-and-potash fertilizers, furnishing phosphoric acid and potash; 49 acidulated rock phosphates, furnishing phosphoric acid only; 35 ground bones, furnishing phosphoric acid and nitrogen, and one miscellaneous sample, which group includes substances not properly classified under the foregoing heads.

The determinations to which a complete fertilizer is subjected are as follows: (1) Moisture, useful for the comparison of analyses, for indication of dry condition and fitness for drilling, and also of the conditions under which the fertilizer was kept in the warehouse. (2) Phosphoric acid—total, that portion soluble in water, and of the residue, that portion not soluble in warm ammonia citrate solution (a solution supposed to represent the action of plant roots upon the fertilizer), which is assumed to have little immediate food value. By difference, it is easy to compute the so-called "reverted" acid, which is the portion insoluble in water but soluble in the citrate. The sum of the soluble and reverted is commonly called the "available" phosphoric acid. (3) Potash soluble in water—most of that present in green sand marl and crushed minerals, and even some of that present in vegetable materials such as cotton-seed meal, not being included because insoluble in water even after long boiling. (4) Nitrogen—This element is determined by a method which simply accounts for all present, without distinguishing between the quantities present in the several forms of ammonium salts, nitrates or organic matter. (5) Chlorin; this determination is made to afford a basis for estimating the proportion of the potash that is present as chlorid or muriate, the cheaper source. The computation is made on the assumption that the chlorin present, unless in excess, has been introduced in the form of muriate of potash; but doubtless there are occasional exceptions to this rule. One part of chlorin combines with 1.326 parts of potash to form the pure muriate; knowing the chlorin, it is, therefore, easy to compute the potash equivalent thereto. (7) In the case of ground bone, the state of sub-division is determined by sifting through accurately made sieves; the cost of preparation and especially the promptness of action of bone in the soil depends very largely on the fineness of its particles the finer being much more quickly useful to the plant.

The law having required the manufacturer to guarantee the amount of certain valuable ingredients present in any brand he may put upon the market, chemical analysis is employed to verify the guaranties stamped upon the fertilizer sacks. It has, therefore, been deemed desirable in this report to enter the guaranty filed by the manufacturer in the office of the Secretary of Agriculture, in such connection with the analytical results that the two may be compared. An unfortunate practice has grown up among manufacturers of so wording the guaranty that it seems to declare the presence in the goods of an amount of a valuable constituent ranging from a certain minimum to a much higher maximum; thus, "Potash, 2 to 4 per cent." is a guaranty not infrequently given. In reality, the sole guaranty is for 2 per cent. The guaranteed amounts given for each brand in the following tables, are copied from the guaranties filed by the maker of the goods with the Secretary of Agriculture, the lowest figure given for any constituent being considered to be the amount guaranteed. For compactness and because no essentially important fact is suppressed thereby, the guaranties for soluble and reverted phosphoric acid have not been given separately, but are combined into a single guaranty for available phosphoric acid; in cases where the maker's guaranty does not specifically mention available phosphoric acid, the sum of the lowest figures given by him for soluble and reverted phosphoric acid is used. The law of 1879 allowed the maker to express his guaranty for nitrogen either in terms of that element or in terms of the ammonia equivalent thereto; since ammonia is composed of three parts of hydrogen and fourteen parts of nitrogen, it is a very simple matter to calculate the amount of one, when the amount of the other is given; the amount of nitrogen multiplied by 1.214 will give the corresponding amount of ammonia, and the amount of ammonia multiplied by 0.824 will give the corresponding amount of nitrogen. In these tables, the expression is in terms of nitrogen.

The law of 1901 abolishes this alternative and requires that the guaranty shall be given in terms of nitrogen. Many manufacturers after complying with the terms of the law, insert additional items in their guaranties, often with the result of misleading or confusing the buyer; the later will do well to give heed to those items only that are given as the law requires and that are presented in these tables.

A summary of the analyses made this season may be presented as follows:

Summary of Analyses Made This Season.

	Complete fertilizers.	Rock and potash.	Dissolved bone.	Dissolved rock.	Ground bone.
Number of analyses,	412	99	4	45	34
Moisture, per cent.,	9.66	10.68	5.58	10.09	5.84
Phosphoric acid:					
Total, per cent.,	9.85	11.31	14.91	15.15	20.80
Soluble, per cent.,	4.46	5.86	4.16	9.32	.....
Reverted, per cent.,	3.50	4.25	4.07	4.10	.....
Insoluble, per cent.,	1.89	1.20	6.68	1.73	.....
Potash, per cent.,	4.24	3.43	.....	.....	.....
Nitrogen, per cent.,	1.60	.....	1.77	.....	3.34
Mechanical analysis of bone:					
Fine,	.....	.....	.....	.....	75
Coarse,	.....	.....	.....	.....	25
Commercial valuation,	24.79	15.16	22.65	12.99	28.29
Average selling price,	23.55	16.17	24.40	13.75	29.02
Commercial value of samples whose selling price is ascertained,	24.76	15.19	22.65	12.98	28.23

The cases of departure of goods from their guaranteed composition observed this season, including only those cases in which it amounted to two-tenths per cent. or more, were as follows:

Summary of Instances of Deficiency From Guaranty.

	Complete fertilizers.	Rock and potash.	Dissolved bone.	Dissolved rock.	Ground bone.
Deficient in four constituents,	3	.....	.....	.....	.....
Deficient in three constituents,	15	2	.....	.....	.....
Deficient in two constituents,	51	6	2	4	1
Deficient in one constituent,	118	34	.....	9	15
Total samples in which deficiency occurred, ..	187	42	2	13	16

The cases of deficiency noted during the past thirteen seasons in the goods as compared with their guaranties expressed in percentage of the total number of goods of each class analyzed, are as follows:

Percentage of Deficiency, 1899-1906.

	Spring, 1899.	Fall, 1899.	Spring, 1900.	Fall, 1900.	Spring, 1901.	Fall, 1901.	Spring, 1902.	Fall, 1902.	Spring, 1903.	Fall, 1903.	Spring, 1904.	Fall, 1904.	Spring, 1905.	Fall, 1905.	Spring, 1906.
Complete fertilizers, ...	38.4	33.7	42.0	40.8	31.6	34.6	40.0	36.7	37.5	37.9	39.5	49.2	35.3	37.5	45.4
Dissolved bone, ...	50.0	14.3	*50.0	*50.0	†	40.0	*100.0	50.0	33.3	63.6	‡	50.0	§100.0	66.6	50.0
Rock and potash, ...	19.1	34.2	29.2	33.3	31.7	26.2	30.3	43.5	32.9	43.2	50.7	35.3	30.9	33.0	42.4
Dissolved rock, ...	13.8	14.5	5.4	19.4	22.5	8.2	15.2	8.9	23.2	20.0	20.0	11.1	9.3	10.0	28.8
Ground bone, ...	18.4	25.3	36.7	11.8	34.1	18.2	17.2	25.0	33.3	.....	36.3	36.8	40.0	31.4	49.0
All classes except miscalleous, ...	30.9	29.2	35.2	34.3	30.8	27.6	34.2	33.2	35.1	44.7	39.6	41.4	32.8	31.4	43.8

*Only two samples analyzed.
†Only one sample analyzed.
‡Only two samples analyzed for which no guaranties are reported.
§Only two samples analyzed for which guaranties are recorded.

A comparison of the average composition of all samples of complete fertilizers for which guaranties are recorded with the average of the corresponding guaranties, for several seasons past including those of this season follows:

Average Composition and Guaranty Compared.

	Average composition. Per cent.	Average guaranty. Per cent.
Fall, 1901.		
Phosphoric acid:		
Total,	11.51	9.82
Available,	10.60	8.06
Potash,	2.77	2.66
Nitrogen,	1.39	1.39
Spring, 1902.		
Phosphoric acid:		
Total,	10.80	9.29
Available,	8.25	7.82
Potash,	3.90	3.66
Nitrogen,	1.62	1.58
Fall, 1902.		
Phosphoric acid:		
Total,	12.58	11.40
Available,	9.95	9.29
Potash	2.69	2.60
Nitrogen,	1.57	1.55
Spring, 1903.		
Phosphoric acid:		
Total,	11.90	10.67
Available,	9.36	8.73
Potash,	3.85	3.63
Nitrogen,	1.58	1.61
Fall, 1903.		
Phosphoric acid:		
Total,	10.76	9.65
Available,	8.84	8.13
Potash,	4.09	3.90
Nitrogen,	1.33	1.29
Spring, 1904.		
Phosphoric acid:		
Total,	10.24	9.32
Available,	8.27	7.87
Potash,	4.09	3.90
Nitrogen,	1.58	1.55
Fall, 1904.		
Phosphoric acid:		
Total,	10.49	9.72
Available,	8.59	7.70
Potash,	2.87	2.81
Nitrogen,	1.25	1.29
Spring, 1905.		
Phosphoric acid:		
Total,	10.16	9.42
Available,	8.50	7.92
Potash,	4.55	4.22
Nitrogen,	1.61	1.58
Fall, 1905.		
Phosphoric acid:		
Total,	10.63	9.62
Available,	8.72	8.13
Potash	2.90	2.42
Nitrogen,	1.26	1.20
Spring, 1906.		
Phosphoric acid:		
Total,	9.73	9.21
Available,	7.88	7.77
Potash,	4.21	3.95
Nitrogen,	1.57	1.53

It is of interest to note how closely the system of valuations, based upon the wholesale prices of raw materials in the principal markets during the most important buying season and upon certain average allowances for expenses and profits on the part of the mixer and jobber, coincides with the retail prices later ascertained. A comparison for several seasons past is given below:

Comparison of Selling Price and Valuation, 1899-1906.

	Selling price.	Valuation.	Excess of valuation over selling price.
Complete fertilizers:			
1889, Spring,	$23.60	$24.70	$1.10
Fall,	22.98	23.42	.44
1900, Spring,	25.38	24.61	—.77
Fall,	23.22	23.84	.62
1901, Spring,	23.92	24.76	.84
Fall,	22.28	23.75	1.47
1902, Spring,	24.10	25.33	1.25
Fall,	21.83	23.31	1.48
1903, Spring,	24.57	24.15	—.42
Fall,	21.98	22.77	.79
1904, Spring,	24.28	24.99	.71
Fall,	21.82	22.53	.71
1905, Spring,	24.63	25.60	.97
Fall,	21.39	22.35	.96
1906, Spring,	23.55	24.76	1.21
Dissolved bone:			
1899, Spring,	21.75	21.81	.06
Fall,	19.00	21.12	2.12
1900, Spring,	26.00	30.87	4.87
Fall,	23.50	22.74	—.76
1901, Spring,	28.00	29.00	1.00
Fall,	23.91	23.36	—.55
1902, Spring,	16.50	17.35	.85
Fall,	25.30	27.08	1.78
1903, Spring,	31.17	30.87	—.30
Fall,	23.67	24.57	.90
1904, Spring,	31.50	28.42	—3.08
Fall,	24.94	27.77	2.83
1905, Spring,	23.83	22.70	—1.13
Fall,	24.78	25.85	1.11
1906, Spring,	24.40	22.65	—1.75
Rock and potash:			
1899, Spring,	16.83	15.16	—1.67
Fall,	17.28	14.53	—2.75
1900, Spring,	17.35	14.71	—2.64
Fall,	18.11	14.63	—3.48
1901, Spring,	16.20	14.60	—1.60
Fall,	16.00	14.23	—1.86
1902, Spring,	16.45	15.05	—1.40
Fall,	15.97	14.46	—1.51
1903, Spring,	17.20	14.74	—2.46
Fall,	15.96	14.86	—1.10
1904, Spring,	16.47	15.46	—1.01
Fall,	15.89	14.92	—.97
1905, Spring,	16.11	15.49	—.62
Fall,	15.97	15.04	—.97
1906, Spring,	16.17	15.19	—.98
Dissolved rock:			
1899, Spring,	13.36	14.03	.67
Fall,	12.64	13.13	.49
1900, Spring,	13.57	13.48	—.09
Fall,	13.96	13.11	—.85
1901, Spring,	13.90	13.51	—.39
Fall,	13.18	13.82	.64
1902, Spring,	13.73	13.49	—.24
Fall,	13.54	13.70	.12
1903, Spring,	15.13	13.34	—1.79
Fall,	14.64	13.12	—1.52
1904, Spring,	14.59	14.05	—.54
Fall,	13.89	14.09	.20
1905, Spring,	13.64	13.86	.22
Fall,	12.21	13.51	1.30
1906, Spring,	13.75	12.98	—.77

Comparison of Selling Price and Valuation, 1899-1906.—Continued.

	Selling price.	Valuation.	Excess of valuation over selling price.
Ground bone:			
1899, Spring,	26.67	28.11	1.44
Fall,	24.98	27.23	2.25
1900, Spring,	28.42	25.91	—2.51
Fall,	28.73	26.87	—1.86
1901, Spring,	27.59	28.71	1.12
Fall,	25.94	27.69	1.75
1902, Spring,	28.52	26.80	—1.72
Fall,	28.09	27.51	—.58
1903, Spring,	28.67	27.25	—1.42
Fall,	27.52	27.07	—.45
1904, Spring,	28.20	27.70	—.50
Fall,	27.02	27.97	.95
1905, Spring,	29.08	26.72	—2.36
Fall,	27.70	28.70	1.00
1906, Spring,	29.02	28.23	—.79

Organization of the Work.

M. S. McDowell, M. S., remained in charge of the reception and preparation of samples and had supervision of the detail of the analytical and clerical work. Mr. H. Pingree, B. S., determined the potash and chlorine; N. C. Hamner, B. S., assisted by H. D. Edmiston, the soluble and insoluble phosphoric acid; P. W. Flint, B. S., the nitrogen; J. W. White, B. S., the total phosphoric acid; H. D. Edmiston, the moisture, and the fineness of the ground bone samples; Miss Alice Jones kept the records and acted as computer.

COMPLETE

Furnishing Phosphoric Acid,

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Abbott & Martin Rendering Co., Columbus, O.		
78	Ideal Grain Grower,	Wesley Walter, Beaver,	7.10
1178	Universal Fertilizer,	T. C. Rhodes, Keisters,	9.75
	Allegheny City Fertilizer Works, Allegheny, Pa. Branch of the Buffalo Fertilizer Works, Buffalo, N. Y.		
74	†Potato Manure,	D. B. Douds & Sons, Monaca,	13.33
676		K. E. Alger, Carnegie,	
806	Banner Phosphate,	J. H. Jones, Hydetown,	8.88
73	†Raw Bone Phosphate,	D. B. Douds & Sons, Monaca,	13.34
624		K. E. Algeo, Carnegie,	
807	Grain and Grass Phosphate,	J. H. Jones, Hydetown,	6.14
	American Agricultural Chemical Co., New York.		
236		F. E. Van Ness, Wysox,	
220	†Special Potash Mixture,	Bert Wilson, Warren Center,	12.15
401		John B. Buckman, Newton,	
217	10 per cent. Vegetable and Potato Manure,	Lott Shoemaker, Windham,	9.95
296	†10 per cent. Potash Mixture for Potatoes,	D. J. Davis, Ebensburg,	8.26
630		S. L. Driggs, Scalp Level,	
531	Special Top Dress for Grass,	L. W. Mattern, West Point,	11.58
635	Superior Compound,	J. L. Culp, Indiana,	11.18
706	H. G. Cabbage Grower,	Ira Hottenstein, Overton,	9.77
799	Special Potato Mixture,	Davis & Hyde, Spartansburg,	12.94
444	10 per cent. Mixture for Potatoes,	J. H. Kase & Co., Riverside,	6.89
502	Susquehanna Ammoniated Bone Phosphate.	C. C. Zimmerman, Halifax,	12.23
	Bradley Branch, New York.		
437		Eli Yost, McEwensville,	
90	†Bradley's Dissolved Bone and Potash,	S. J. Saint, Sharpsburg,	12.25
763		J. Stark, Ohio Pyle,	
840		Schultz & Pardoe, Franklin,	
253		Jos. Rhoades, Somerset,	
89	†Bradley's Bean and Potato Phosphate,	S. J. Saint, Sharpsburg,	12.64
436		Eli Yost, McEwensville,	
762		J. Stark, Ohio Pyle,	
255	†Bradley's Niagara Phosphate,	Jos. Rhoades, Somerset,	10.65
841		Schultz & Pardoe, Franklin,	
435		Eli Yost, McEwensville,	
91	†Bradley's Sea Fowl Guano,	S. J. Saint, Sharpsburg,	11.95
689		Lee Lutes, Charleroi,	
843		Schultz & Pardoe, Franklin,	
	Canton Chemical Branch, Baltimore, Md.		
513		J. A. Bomberger, Elizabethville,	
402	†Potato Manure,	John B. Buckman, Newtown,	8.28
734		Mark Hildebeitel, Green Lane,	
950		H. Frank Gump, Everett,	
284		J. D. Miller, Rockwood,	
404		John B. Buckman, Newtown,	
179	†Baker's Special Wheat, Corn and Grass Mixture.	Lewis Heffner, DeTurksville,	11.78
425		F. W. Lindner, Milton,	
430		W. A. Leiser, Watsontown,	
532		L. W. Mattern, West Point,	
403		John D. Buckmen, Newtown,	
183	†Resurgam Guano,	Lewis Heffner, DeTurkville,	12.13
730		Mark Hildebeitel, Green lane,	
512		J. A. Bomberger, Elizabethville,	
182	†Eagle Phosphate,	Lewis Heffner, DeTurksville,	10.14
733		Mark Hildebeitel, Green Lane,	
902		G. B. Murphy, Keys,	
285	†Baker's Standard H. G. Guano,	J. D. Miller, Rockwood,	10.38
429		W. A. Leiser, Watsontown,	

†Composite sample.

FERTILIZERS.

Potash and Nitrogen.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.		Found.	Guaranteed.			
			Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.					
.68	7.79	1.75	10.22	.....	8.47	7.00	1.07	.....	1.07	1.00	*.49	.82	13.47	18.00	78
.84	6.89	2.04	9.77	.....	*7.73	8.00	4.66	.....	4.66	4.00	*.35	.82	16.17	23.00	1178
4.78	3.01	1.59	9.38	9.00	*7.79	8.00	4.40	1.09	*5.49	6.00	*1.81	2.47	27.03	27.00	74
														30.00	676
5.41	4.45	1.70	11.56	9.00	9.86	8.00	.....	2.22	2.22	2.00	.95	.82	21.79	22.50	806
4.55	3.22	1.72	*9.49	10.00	*7.77	9.00	3.33	.94	4.27	4.00	1.69	1.65	25.32	25.00	73
														28.00	624
3.17	4.16	1.22	*8.55	10.00	*7.33	9.00	.....	3.85	*3.85	4.00	*.70	.82	20.14	24.50	807
														25.00	236
7.13	1.76	1.29	10.18	10.00	*8.89	9.00	7.22	.....	7.22	7.00	.98	.82	26.22	25.00	220
														27.00	401
6.55	1.95	1.50	10.00	.....	8.50	.....	9.77	.....	9.77	.....	1.51	.....	30.68	29.00	217
1.90	2.74	1.79	6.43	6.00	*4.64	5.00	10.05	.....	10.05	10.00	1.69	1.65	27.75	27.00	296
														30.00	630
1.58	4.47	1.66	7.71	7.00	6.05	6.00	1.52	.....	1.52	1.00	1.65	1.65	20.06	22.00	531
5.25	2.75	2.69	10.69	9.00	8.00	8.00	4.57	.....	4.57	4.00	1.82	1.65	26.65	24.00	635
6.58	2.40	2.94	11.92	10.00	*8.98	9.00	6.66	.....	*6.66	7.00	.89	.82	25.98	26.00	706
5.87	3.55	1.39	10.81	.....	*9.42	.....	6.71	.....	6.71	.....	1.16	.....	26.76	25.00	799
2.38	2.59	1.59	6.56	6.00	4.97	5.00	9.96	.....	*9.96	10.00	1.75	1.65	28.14	30.00	444
4.90	2.75	1.54	*9.19	11.00	*7.65	9.00	2.30	.....	2.30	2.00	1.70	1.65	22.98	22.00	502
														19.00	437
														23.00	90
5.60	2.58	1.06	9.24	9.00	8.18	8.00	2.23	.....	2.23	2.00	1.12	1.03	20.62	25.00	763
														30.00	840
														20.00	253
5.37	2.53	1.15	9.05	9.00	*7.90	8.00	3.94	.....	*3.94	4.00	1.05	.82	21.88	25.00	89
														20.00	436
														23.00	762
4.54	3.27	1.11	8.92	8.00	7.81	7.00	1.33	.....	1.33	1.00	1.07	.82	19.02	78.00	255
														24.00	841
														21.50	435
5.52	2.26	1.72	9.50	9.00	*7.78	8.00	2.79	.....	2.79	1.50	*1.83	2.06	24.45	26.00	91
														23.50	689
														28.00	843
														20.00	513
4.51	1.54	1.34	7.39	7.00	6.05	6.00	5.27	.....	5.27	5.00	1.63	1.24	24.08	26.00	402
														25.00	734
														25.00	950
														21.00	284
														24.00	404
6.43	2.34	1.24	10.01	10.00	*8.77	9.00	2.36	.....	2.36	2.00	1.00	.82	21.01	19.00	179
														18.00	425
														19.00	430
														23.00	532
														25.00	403
4.60	3.12	1.14	*8.86	9.00	*7.72	8.00	4.01	.....	4.01	4.00	.97	.82	21.20	19.00	183
														23.00	739
														17.00	512
2.72	4.26	1.41	8.39	8.00	*6.98	7.00	1.66	.....	1.66	1.00	1.01	.82	18.25	17.00	182
														22.00	733
														17.00	902
4.32	2.85	1.87	9.04	9.00	*7.17	8.00	3.47	.....	3.47	3.00	2.31	2.06	26.46	25.00	285
														22.00	429

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Clark's Cove Branch, New York.		
45	†King Philip Alkaline Guano,	Christ Alexander, Millheim,	9.96
1248		John Wag, Coleman,	
1111	King Philip,	B. V. Paulman, Benton,	13.29
	Crocker Branch, Buffalo, N. Y.		
52	†Potato, Hop and Tobacco,	Union C. & S. Co., Union City,	11.70
227		Jno. A. Williams, Neath,	
49	†General Crop,	H. B. Mitchell & Co., Emlenton,	9.80
313		W. H. Riland, Freidensburg,	
53	Complete Manure,	Union C. & S. Co., Union City,	10.16
228	Wheat and Corn Fertilizer,	Jno. A. Williams, Neath,	13.04
	Detrick Branch, Baltimore, Md.		
1231	Detrick's Standard Potash Fertilizer,	Levi Berkly, Somerset,	9.56
439	†Detrick's Corn and Oats Fertilizer,	Eli Yost, McEwensville,	11.21
27		D. A. Grove, Lemont,	
1021		James McCauley, Mifflintown,	
	Great Eastern Branch, Rutland, Vt.		
1114	G. E. Vegetable Vine and Tobacco,	C. N. Snyder, Nicholson,	12.18
914	†G. E. General,	Wm. Overdorff, Windsor,	11.85
373		L. E. Harkness, Columbia Cross R's,	
1176		J. B. Atwell, Big Bend,	
913	†G. E. Wheat Special,	Wm. Overdorff, Windsorville,	10.63
1179		H. C. Beaty, Beaty's Corners,	
372	Northern Corn Special,	L. E. Harkness, Columbia Cross R's,	12.20
	Lazaretto Guano Branch, Baltimore, Md.		
241	Lazaretto Special Potato Fertilizer,	Walker Bros., Glade,	11.10
	Maryland Branch, Baltimore, Md.		
441	†Maryland Special Compound for Potatoes and Tobacco.	J. A. Gass, Sunbury,	9.43
544		Jones & Paxon, Hatboro,	
443	†Maryland O. K. Ammoniated Bone,	J. A. Gass, Sunbury,	13.19
949		Smith & McKelvey, Blairsville,	
	Milsom Branch, East Buffalo, N. Y.		
611	†Buffalo Guano,	J. B. Dunlap & Son, Canonsburg,	12.77
348		Jacob Hollenback, Hamburg,	
822		Harry Dewey, Blooming Valley,	
612	Wheat, Oats and Barley Fertilizer,	J. B. Dunlap & Sons, Canonsburg,	11.13
1222	Potato, Hop and Tobacco,	F. M. Cardon, Clearfield,	12.66
818	Wheat, Oats and Barley,	Harry Dewey, Blooming Valley,	12.00
	Moro-Phillips Branch, Philadelphia.		
29	Moro-Phillips Farmers Phosphate,	J. H. & S. E. Weber, Oak Hall,	9.48
483	Moro-Phillips 10 per cent. Vegetable and Potato Manure.	John Shoener, McKeansburg,	9.27
394	†Moro-Phillips Farmers Potato Mixture,	M. H. Matlock, West Chester,	8.58
354		H. A. Knauer, Douglassville,	
1053		J. I. Goss, Lewistown,	
	Niagara Branch, New York.		
835	Wheat and Corn Producer,	D. C. Waldo, Cambridge Springs,	11.72
836	Grain and Grass,	D. C. Waldo, Cambridge Springs,	10.80
	Pacific Guano Branch, New York.		
633	†Pacific Potato Phosphate,	J. L. Culp, Indiana,	12.05
943		Smith & McKelvey, Blairsville,	
	Packer's Union Branch, Rutland, Vt.		
720	Gardner's Complete Manure,	Jos. Yonkin, Dushore,	9.29
988	†Animal Corn Fertilizer,	J. M. U. Ulrich, Halls,	9'51
1063		C. S. Brown, Mill Creek,	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.						
			Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.	Found.	Guaranteed.			
4.49	3.20	1.71	9.40	9.00	*7.69	8.00	2.38	.....	2.38	2.00	1.19	1.03	20.92	18.25	45
														.....	1248
5.83	2.57	1.66	10.06	9.00	8.40	8.00	2.32	.....	2.32	2.00	1.18	1.03	21.64	22.00	1111
6.64	1.96	1.39	9.99	9.00	8.60	8.00	3.12	.....	3.12	3.00	2.12	2.06	26.62	24.00	52
														25.00	227
4.02	4.34	.51	8.87	8.00	8.36	7.00	1.16	.....	1.16	1.00	1.05	.82	18.98	20.00	49
														17.60	313
5.33	3.24	.55	9.12	9.00	8.57	8.00	4.06	.....	4.06	4.00	1.15	.82	22.75	20.00	53
6.43	2.81	1.98	11.22	9.00	9.24	8.00	1.95	.....	1.95	1.50	2.75	2.06	29.20	24.50	228
2.65	3.84	1.39	7.88	7.00	6.49	6.00	5.16	.....	5.16	5.00	1.49	1.24	23.55	.....	1231
5.55	3.04	1.29	*9.88	10.00	*8.59	9.00	3.03	.....	3.03	3.00	1.01	.82	21.50	20.00	439
														19.00	27
														.....	1021
7.16	1.61	1.04	9.81	9.00	8.77	8.00	3.77	.....	3.77	3.00	2.12	2.06	27.32	26.00	1114
6.45	1.96	1.73	10.14	9.00	8.41	8.00	4.42	.....	4.42	4.00	1.02	.82	23.01	21.00	914
														22.00	373
														24.00	1176
5.43	2.68	1.58	9.69	9.00	8.11	8.00	2.63	.....	2.63	2.00	*1.57	1.65	23.22	22.00	913
														27.00	1179
7.83	1.78	.99	10.60	10.00	9.61	9.00	2.69	.....	2.69	2.00	2.62	2.47	29.35	26.00	372
4.48	4.70	1.22	10.40	9.00	9.18	8.00	4.55	.....	4.55	4.00	.86	.82	22.77	.....	241
5.04	2.72	1.29	9.05	9.00	*7.76	8.00	10.98	.....	10.98	10.00	1.85	1.65	32.52	33.00	441
														30.00	544
5.80	2.88	1.01	9.69	9.00	8.68	8.00	2.21	.....	2.21	2.00	.92	.82	20.17	20.00	443
														22.00	940
6.22	2.51	.96	9.69	9.00	8.73	8.00	4.48	.....	4.48	4.00	1.04	.82	23.28	22.00	611
														20.00	348
														21.00	822
5.33	3.33	1.54	10.20	9.00	8.66	8.00	2.22	.....	2.22	2.00	1.10	.82	21.22	22.00	612
5.51	3.34	1.54	10.39	9.00	8.85	8.00	3.41	.....	3.41	3.00	2.56	2.06	29.10	30.00	1222
6.13	1.84	1.61	9.58	9.00	*7.97	8.00	2.64	.....	2.64	2.00	1.07	.82	20.96	19.00	818
2.36	4.06	1.29	*7.71	8.00	*6.42	7.00	1.41	.....	1.41	1.00	.95	.82	17.11	18.50	29
4.88	3.00	1.27	9.15	9.00	*7.88	8.00	10.54	.....	10.54	10.00	1.75	1.65	31.71	27.00	483
2.98	1.64	3.05	*7.67	8.00	*4.62	7.00	5.26	.....	5.26	1.00	1.32	.82	21.76	24.00	394
														23.00	354
														22.00	1053
702	3.28	1.28	11.58	11.00	10.30	9.00	2.24	.....	2.24	2.00	1.55	1.24	24.93	27.00	835
4.18	2.87	1.57	8.62	8.00	7.05	7.00	1.66	.....	1.66	1.00	1.12	.82	18.98	24.00	836
5.21	2.55	.88	8.64	7.00	7.76	6.00	4.59	.....	*4.59	5.00	1.25	1.24	23.14	23.00	633
														25.00	943
4.58	1.50	.83	*6.91	7.00	6.08	6.00	11.49	.....	11.49	10.00	3.33	3.30	37.81	32.50	720
4.49	3.56	1.64	*9.69	11.00	*8.05	9.00	2.89	.....	2.89	2.00	2.56	2.47	27.75	23.00	988
														22.80	1063

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
557	†Universal Fertilizer,	D. A. Barron, Trent,	10.92
38		Frank H. Wian, Bellefonte,	
989		J. M. U. Ulrich, Halls,	
1062		C. S. Brown, Mill Creek,	
	Quinnipiac Branch, Buffalo, N. Y.		
634	†Quinnipiac Climax Phosphate,	J. L. Culp, Indiana,	12.00
746		J. H. Geisler, Trexlertown,	
637	†Quinnipiac Mohawk Fertilizer,	J. L. Culp, Indiana,	12.50
1128		J. H. Geisler, Trexlertown,	
	Read Branch, New York.		
353	Read's Leader Blood and Bone,	H. A. Knauer, Douglassville,	11.06
355	Read's Standard Superphosphate,	H. A. Knauer, Douglassville,	12.67
219	Practical Potato Special,	Lott Shoemaker, Windham,	6.80
703	Farmer's Friend,	E. J. Billings, New Albany,	11.40
	Reese Branch, Baltimore, Md.		
653	†Reese's Potato Manure,	Wm. C. Ball, Media,	9.23
174		Harry Keefer, Pine Grove,	
1090		A. G. Houtz, Truckville,	
1132		Frank C. Williams, Easton,	
365	†Reese's Standard,	Earl Nichols, East Smithfield,	11.30
652		Wm. C. Ball, Media,	
173	†Reese's Pilgrim Fertilizer,	Harry Kiefer, Pine Grove,	11.25
784		J. B. Baeshore, Fredericksburg,	
171	†Reese's Half and Half,	Harry Keefer, Pine Grove,	10.37
1089		A. G. Houtz, Truckville,	
	Sharpless & Carpenter Branch, Philadelphia, Pa.		
489	Dissolved Bone Phosphate for Potatoes and General Use.	Jonas Kunkle, McKeansburg,	10.28
580	†S. & C. Farmer's Bone Phosphate,	L. A. Geiger, Joanna,	9.99
398		Griffith & Wollerton, Downingtown,	
1142		J. Watson Craft, Ambler,	
409	†S. & C. Potato, Corn and Truck Guano,	J. L. Sanders, Millmont,	9.37
399		Griffith & Wallerton, Downingtown,	
549		B. F. Rambo, Linfield,	
579		L. A. Geiger, Joanna,	
673	†S. & C. No. 1 Bone Phosphate,	A. B. Shoemaker, Tullytown,	10.75
488		Jonas Kunkle, McKeansburg,	
1140		J. Watson Craft, Ambler,	
397	S. & C. Royal Spring Mixture,	Griffith & Wallerton, Downingtown,	10.43
659	†S. & C. Gilt Edge Potato and Tobacco Manure.	A. B. Shoemaker, Tullytown,	7.63
1054		J. J. Goss, Lewistown,	
551		B. F. Rambo, Linfield,	
1120		J. C. Harrington, Montrose,	
1138		J. Watson Craft, Ambler,	
672	S. & C. Soluble Tampico Guano,	A. B. Shoemaker, Tullytown,	9.53
486	Tampo Guano,	Jonas Kunkle, McKeansburg,	12.18
1110	S. & C. Tampico Guano,	B. V. Parthman, Benton,	9.08
	Susquehanna Branch, Baltimore, Md.		
258	†Susquehanna Potato Phosphate,	A. A. Miller, Somerset,	11.90
339		Jos. S. Heffner & Sons, Kutztown,	
126		H. P. Passmore, Keelton,	
420		A. C. Slifer, Lewisburg,	
485		John Shoener, McKeansburg,	
338	†Susquehanna XXV Phosphate,	Jas. S. Heffner & Son, Kutztown,	11.80
128		H. P. Passmore, Kellton,	
999		J. N. Getz, Lock Haven,	
140	†Susquehanna Crop Grower,	E. B. Wood, Avondale,	11.18
263		A. A Miller, Lavensville,	
700	Special Potato and Tobacco Manure,	Crammer & Musselman, Monroeton,	10.93
	Tygert-Allen Branch, Philadelphia, Pa.		
1240	Allen's Popular Phosphate,	Aaron Swank, Davidsville,	11.48
230	†Special Brand Potato Manure,	Ralph Beardsley, Warrenham,	9.44
371		L. W. Forest, East Smithfield,	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
4.69	3.40	1.08	9.17	9.00	8.09	8.00	4.30	.....	4.30	4.00	.92	.82	21.63	19.25	557
														20.00	38
														19.50	989
														19.00	1062
5.46	2.55	1.36	9.37	9.00	8.01	8.00	2.35	.....	2.35	2.00	1.33	1.03	21.79	20.00	634
														20.00	746
4.28	3.09	1.31	8.68	8.00	7.37	7.00	1.51	.....	1.51	1.00	.99	.82	18.62	18.00	637
														18.00	1128
3.33	3.79	1.61	8.73	8.00	7.12	7.00	1.29	.....	1.29	1.00	1.00	.82	18.21	19.00	353
4.67	3.60	1.02	9.29	9.00	8.27	8.00	4.31	.....	4.31	4.00	.83	.82	21.58	22.00	335
3.68	1.52	4.94	10.14	5.00	5.20	4.00	7.57	.....	*7.57	8.00	*.78	.82	23.47	24.00	219
7.61	2.70	1.28	11.59	9.00	10.31	8.00	3.37	.....	3.37	3.00	2.15	2.06	28.80	24.00	703
6.91	2.53	1.01	10.45	10.00	9.44	9.00	6.73	.....	*6.73	7.00	1.09	.82	26.55	25.00	653
														24.00	174
														23.00	1090
														23.50	1132
6.55	2.72	1.67	*10.94	11.00	9.27	9.00	2.59	.....	2.59	2.00	2.48	2.47	28.66	26.00	365
														28.00	652
4.69	6.43	.99	12.11	9.00	11.12	8.00	4.15	.....	4.15	4.00	.94	.82	24.56	21.00	173
														22.00	784
3.02	4.24	1.61	8.87	8.00	7.26	7.00	1.28	.....	1.28	1.00	1.13	.82	18.93	18.00	171
														17.00	1089
4.56	3.89	1.24	9.69	9.00	8.45	8.00	6.10	.....	6.10	6.00	2.12	2.06	29.22	27.00	489
4.44	3.25	1.31	9.00	9.00	*7.69	8.00	4 17	.....	4.17	4.00	.99	.82	21.63	20.00	580
														23.00	398
														22.00	1142
3.61	2.93	1.44	7.98	7.00	6.54	6.00	5.12	.....	5.12	5.00	1.40	1.24	23.24	21.00	409
														24.00	399
														30.00	549
														23.00	579
4.28	3.61	2.00	9.89	9.00	*7.89	8.00	2.39	.....	2.39	2.00	1.72	1.65	23.46	25.00	673
														22.00	488
														22.00	1140
5.27	2.79	.99	9.05	9.00	8.06	8.00	2.35	.....	2.35	2.00	1.02	.82	20.08	20.00	397
5.34	3.40	1.66	10.40	9.00	8.74	8.00	10.07	.....	10.07	10.00	1.95	1.65	33.15	30.00	679
														26.00	1054
														32.00	551
														30.00	1120
														28.00	1138
5.15	3.39	1.77	10.31	9.00	8.54	8.00	7.45	.....	7.45	7.00	*3.22	3.30	35.88	34.00	672
4.13	3.61	1.57	9.31	9.00	*7.74	8.00	6.34	.....	*6.34	7.00	*3.19	3.30	33.78	32.00	486
4.48	4.09	2.36	10.93	9.00	8.57	8.00	7.42	.....	7.42	7.00	3.59	3.30	37.86	35.00	1110
4.78	2.78	1.92	9.48	9.00	*7.56	8.00	5.33	.....	5.33	5.00	1.74	1.65	26.42	.....	258
														23.00	339
														25.00	126
														22.50	420
														23.00	485
4.26	3.60	1.45	9.31	9.00	*7.86	8.00	1.32	.....	1.32	1.00	.99	.82	18.92	19.00	338
														18.00	128
														22.00	999
3.28	4.03	1.56	8.87	8.00	7.31	7.00	1.54	.....	1.54	1.00	.99	.82	18.57	21.00	140
														.....	263
5.13	4.07	1.17	10.37	9.00	9.20	8.00	11.56	.....	11.56	10.00	1.89	1.65	34.63	32.00	700
3.79	3.71	1.10	*8.60	9.00	*7.50	8.00	2.11	.....	2.11	2.00	.97	.82	18.96	.....	1240
6.08	2.27	1.45	9.80	9.00	8.35	8.00	7.31	.....	7.31	6.00	*1.68	2.06	28.84	29.00	230
														26.50	371

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
751	Allen's Special for Wheat and Grass, ...	John A. McCombs, New Salem, ...	10.01
	M. E. Wheeler Branch, Rutland, Vt.		
765	†Wheeler's Potato Manure, ...	J. D. Eicher, Mill Run, ...	12.23
1246		Chas. F. Walker, Shanksville, ...	
3	†Royal Wheat Grower, ...	Joseph Custer, Tropp, ...	12.65
265		John Gawhert, Pine Hill, ...	
	Williams & Clark Branch, New York.		
755		McCormick & Stevenson, New Salem,	
366	†W. & C. Good Grower Potato Phosphate.	Earl Nichols, East Smithfield, ...	11.21
644		R. D. Carnaham, Saltsburg, ...	
423	†W. & C. Prolific Fertilizer, ...	F. W. Lindner, Milton, ...	12.85
754		McCormick & Stevenson, New Salem.	
758		T. H. Chisen, Connellsville, ...	
794	W. & C. Americus Universal Ammoniated Dissolved Bone.	D. M. Carmany, Lebanon, ...	9.66
795	H. G. Special Fertilizer, ...	D. M. Carmany, Lebanon, Pa., ...	9.04
50	Special Mixture, ...	Wm. McGinness, Emlenton, ...	11.62
	Zell's Guano Branch.		
631		S. L. Driggs, Scalp Level, ...	
197	†Zell's Ammoniated Bone Superphosphate	O. F. Arnold, Dillsburg, ...	10.81
900		A. A. Earhart, Dallastown, ...	
362		C. E. Drake, Litchfield, ...	
190	†Zell's Economizer Phosphate, ...	John Reed, Friedensburg, ...	13.79
727		Carl Crouss, Red Hill, ...	
189	†Zell's Little Giant, ...	John Reed, Friedensburg, ...	9.64
726		Carl Crouse, Red Hill, ...	
361		C. E. Drake, Litchfield, ...	
191	†Zell's Hustler Phosphate, ...	John Reed, Friedensburg, ...	12.18
711		J. Lyman Snyder, Elkland, ...	
198	†Zell's Special Compound for Potatoes and Vegetables.	O. F. Arnold, Dillensburg, ...	11.35
725		Carl Crouse, Red Hill, ...	
	American Reduction Co., Pittsburg, Pa.		
490	Common Sense, ...	Henry Rinehart, New Ringgold, ...	5.39
492	Iron City, ...	Henry Rinehart, New Ringgold, ...	2.99
491	Vegetable Manure, ...	Henry Rinehart, New Ringgold, ...	3.29
606	†Pittsburg Guano, ...	G. H. Kirchner, Freedom, ...	5.25
1177		Joseph Sulton, Emlenton, ...	
	Armour Fertilizer Works, Chicago, Ill.		
803	All Soluble, ...	United Hardware and Supply Co., Titusville.	7.22
729	Ammoniated Bone and Potash, ...	Carl Crouss, Red Hill, ...	7.74
416		J. W. Painter & Co., Lewisbury, ...	
142	†Bone, Blood and Potash, ...	Lewis W. Colmery, Landenberg, ...	7.92
1100		J. H. Frank, Annville, ...	
702		Wm. Wait. Windham, ...	
57	†Grain Grower, ...	Acme Milling Co., Corry, ...	6.44
736		J. Singmaster & Co., Macungie, ...	
129		S. K. Chambers & Bro., Elkview, ..	
247		Beerets & Sons, Somerset, ...	
58	†H. G. Potato Fertilizer, ...	Acme Milling Co., Corry, ...	7.93
577		Chas. V. Geiger, Scarlet's Mill, ...	
623		Swart & Bailey, Washington, ...	
292		D. J. Davis, Ebensburg, ...	
440		A. A. Loss, Hartleton, ...	
59	Fruit and Root Crop Special, ...	Acme Milling Co., Corry, ...	8.98
578		Chas. V. Geiger, Scarlet's Mill.	
622		Swart & Bailey, Washington, ...	
728		Carl Crouss, Red Hill, ...	
60	†Wheat, Corn and Oats Special, ...	Acme Milling Co., Corry, ...	7.58
1101	Wheat Special, ...	J. H. Frank, Annville.	5.86

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.		Found.	Guaranteed.			
			Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.					
4.12	3.64	1.20	8.96	8.00	7.76	7.00	1.93	.....	1.93	1.00	1.14	.82	20.01	24.00	751
5.29	4.02	1.05	10.36	9.00	9.31	8.00	3.94	.....	3.94	3.00	*1.76	2.06	26.28	24.00	765
														.....	1246
5.28	2.88	1.34	9.50	9.00	8.16	8.00	2.41	.....	2.41	2.00	.95	.82	20.18	20.00	3
														20.00	265
														22.00	755
5.36	3.57	.89	9.82	7.00	8.93	6.00	6.39	.....	6.39	5.00	1.52	1.24	27.21	24.00	366
														.....	644
4.69	2.92	.93	8.54	8.00	7.61	7.00	1.66	.....	1.66	1.00	1.07	.82	19.08	16.00	423
														15.60	754
														.....	758
6.68	2.28	1.61	10.57	9.00	8.96	8.00	2.46	.....	2.46	2.00	2.00	1.65	25.94	19.00	794
6.77	2.24	1.67	10.68	9.00	9.01	8.00	7.34	.....	7.34	7.00	3.25	3.30	37.08	30.00	795
6.76	2.59	1.52	10.87	.....	9.35	.....	5.76	.....	5.76	.....	1.08	.....	25.66	23.00	50
														25.00	631
4.56	3.23	1.75	9.54	9.00	*7.79	8.00	2.25	.....	2.25	2.00	1.76	1.65	23.35	21.00	197
														20.00	900
														22.00	362
5.49	2.74	2.03	10.26	9.00	8.23	8.00	2.11	.....	2.11	2.00	1.00	.82	20.53	18.00	190
														24.00	727
3.75	3.55	1.48	8.78	8.00	7.30	7.00	1.16	.....	1.16	1.00	1.07	.82	18.43	17.00	189
														19.00	726
														23.00	361
6.90	2.75	1.84	11.49	10.00	9.65	9.00	3.37	.....	3.37	3.00	1.02	.82	23.24	19.50	191
														21.00	711
5.00	2.78	1.81	9.59	9.00	*7.78	8.00	4.09	.....	4.09	4.00	*2.45	2.47	28.42	27.00	198
														28.00	725
4.28	2.53	1.12	7.93	7.00	6.81	6.00	.70	.....	*.70	1.00	1.74	1.65	20.52	15.00	490
3.11	4.68	3.38	11.17	10.00	*7.79	9.00	2.57	.....	2.57	2.00	2.63	2.47	28.24	21.00	492
2.28	4.01	2.44	8.73	7.00	6.29	6.00	6.65	.....	6.65	6.00	2.52	2.47	29.78	24.00	491
3.26	3.36	1.32	*7.94	9.00	*6.62	8.00	1.62	.....	1.62	1.00	1.41	1.24	19.60	21.00	606
														24.00	1177
6.12	3.64	2.87	12.63	10.00	9.76	8.00	.....	4.48	4.48	4.00	3.01	2.88	34.64	33.00	803
4.42	1.95	2.13	8.50	8.00	6.37	6.00	3.20	.....	3.20	2.00	*2.33	2.47	25.76	24.50	729
														.....	416
4.65	3.58	1.40	*9.63	10.00	8.23	8.00	2.27	5.29	7.56	7.00	4.18	4.12	40.86	.....	142
														35.00	1100
														20.00	702
5.16	2.82	3.19	11.17	10.00	*7.98	8.00	2.54	.....	2.54	2.00	1.89	1.65	25.23	24.00	57
														20.00	736
														28.00	129
														28.00	247
6.02	2.21	2.45	10.68	10.00	8.23	8.00	10.05	.....	10.05	10.00	*1.62	1.65	31.58	30.00	58
														28.00	577
														32.00	623
														25.00	292
														23.45	440
6.63	1.84	1.67	10.14	10.00	8.47	8.00	5.20	.....	5.20	5.00	1.85	1.65	27.68	26.00	59
														28.00	578
														28.00	622
														19.00	728
3.91	3.10	1.59	*8.60	9.00	7.01	7.00	1.42	.....	1.42	1.00	1.06	.82	18.45	20.00	60
6.60	2.21	.94	*9.75	10.00	8.81	8.00	2.04	.....	2.04	2.00	.82	.82	19.74	18.00	1101

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
111	Royal Ammoniated Bone,	Geo. H. Stewart, Shippensburg,	8.99
724	Special Mixture,	Carl Crouss, Red Hill,	9.73
246	Wheat and Corn Special,	Beerets & Sons, Somerset,	9.56
	R. S. Aucker, Shamokin, Pa.		
1047	H. G. Bone and Slaughter House Phosphate.	G. R. Hendricks & Son, Selinsgrove,	3.99
1050	Pure Bone Meal With Potash.	G. R. Hendricks & Son, Selinsgrove,	3.91
1049	Grade D. Bone and Slaughter House Phosphate.	G. R. Hendricks & Son, Selinsgrove,	4.52
1048	Grade E. Bone and Slaughter House Phosphate.	G. R. Hendricks & Son, Selinsgrove,	8.84
	Baltimore Fertilizer Co., Baltimore, Md.		
564	Honest Potato and Tobacco Grower,	John S. Trimpey, Kingwood,	7.49
770	Honest Success,	Samuel Metzler, Metzler,	8.68
	Baltimore Pulverizing Co., Baltimore, Md.		
1118	Potato Guano,	Stearn & Co., Kingsley,	12.08
	Baugh & Sons Co., Philadelphia, Pa.		
691	Potato Fertilizer,	D. E. Gamble, Monongahela City,	9.50
4	†Animal Bone and Potash,	Charles Garber, Royersford,	10.69
554		F. W. Mason, Rockwood,	
21	Double Eagle Phosphate,	W. W. Bailey, Pottstown,	10.01
506	$25 Phosphate,	J. A. Bomberger, Elizabethville,	10.52
571		Bird & Bird, Confluence,	
120	†Special Potato Manure,	Allison & Fogelsonger, Shippensburg,	8.52
133		Pennoch & Brosius, Avondale,	
5		Charles Garber, Royersford,	
344		Adam Stoudt, Shoemakersville,	
350		P. S. Shoppell, Mohrsville,	
495		Wm. Kleckner, Kepnersville,	
509		J. A. Bomberger, Elizabethville,	
1196	Wrapper Leaf Brand,	M. S. Graybill, Bareville,	8.42
1144	Export Bone With Potash,	J. Watson Craft, Ambler,	4.74
132	†General Crop Grower for All Crops,	Pennoch & Broslus, Avondale,	9.92
113		Allison & Fogelsonger, Shippensburg,	
307		N. J. Hoffman, Elton,	
570		Bird & Bird, Confluence,	
869	†Ammoniated Soluble Alkaline,	D. M. Frey & Sheffer, Hanover,	8.39
114		Allison & Fogelsonger, Shippensburg,	
939		Cook, Deardorff & Co., Dillsburg,	
306	†Complete Animal Bone Fertilizer,	N. J. Hoffman, Elton,	10.08
343		Adam Stoudt, Shoemakersville,	
162		E. A. & J. L. Pennock, Chatham,	
351		P. S. Shoppell, Mohrsville,	
491		Wm. Kleckner, Kepnersville,	
955	Double Eagle $25 Phosphate,	Francis Baker, Everett,	9.93
621	Potato and Truck Special,	Jos. A. Little, Washington,	8.05
966	Peninsula Grain Producer,	W. M. Eves & Bro., Millville,	7.00
493	†Excelsior Corn and Peanut Guano,	Wm. Kleckner, Kepnersville,	10.16
6		Charles Garber, Royersford,	
508		J. A. Bamberger, Elizabethville,	
1091		A. G. Spannuth, Myerstown,	
447	Peruvian Guano,	Boettinger & Deitz, Danville,	6.76
815	Peanut Guano,	J. B. Atwell, Emlenton,	8.67
926	Cook Deardorff's Special Compound for Grain and Grass.	Cook, Deardorff & Co., Dillsburg,	5.52
	Berg Co., Philadelphia, Pa.		
545	†Special $25 Bone Manure,	H. Jarrett, Hatboro,	9.05
319		G. E. Hoffman & Co., Cressona,	
845			
844	Standard Bone Manure,	S. Book & Bro., Quarryville,	10.62
1184	Tobacco Manure,	A. B. Groff, New Holland,	11.42
	Bowker Fertilizer Co., Boston, Mass.		
1067	Potash Bone,	B. F. Fink, Huntingdon,	7.85

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
4.17	3.58	2.21	*9.96	10.00	*7.75	8.00	4.03	.....	4.03	4.00	1.05	.82	22.20	20.00	111
6.23	2.16	.82	*9.21	10.00	8.39	8.00	1.52	.....	1.52	1.00	.76	.41	18.48	18.00	724
5.13	2.63	.88	*8.64	9.00	7.76	7.00	1.14	.....	1.14	1.00	.96	.82	18.32	20.00	246
3.52	5.54	4.05	13.11	12.00	9.06	9.00	2.71	.....	*2.71	3.00	1.76	1.65	25.99	26.00	1047
.12	6.82	9.82	16.76	14.54	6.94	6.33	5.91	.....	5.91	4.57	2.60	2.57	33.37	29.00	1050
2.04	5.23	2.36	*9.63	10.00	*7.27	8.00	2.71	.....	*2.71	3.00	*.74	.82	18.88	21.00	1049
2.75	4.69	1.65	*9.09	9.50	*7.44	8.00	2.44	.....	*2.44	2.50	*.66	2.47	18.07	19.00	1048
3.77	2.68	.80	7.25	.....	6.45	6.00	7.76	.....	*7.76	8.00	1.82	1.65	27.33	.....	564
3.10	4.65	.46	7.61	.....	7.15	7.00	4.77	.....	4.77	4.00	1.10	.82	21'58	.....	770
4.29	5.24	1.89	11.42	.....	9.53	8.00	7.87	.....	*7.87	10.00	*1.39	1.65	29.19	28.00	1118
2.88	3.98	1.96	8.82	.....	6.86	.....	3.68	.....	3.68	.....	2.18	.....	25.81	28.00	691
6.04	2.01	1.60	9.65	.....	8.05	8.00	2.61	.....	2.61	2.00	1.76	1.65	24.06	23.00	4
														.....	554
6.40	3.00	2.23	11.63	.....	9.40	8.00	1.32	.....	1.32	1.00	2.16	1.65	26.16	22.50	21
3.97	4.70	1.94	10.61	.....	8.67	8.00	1.97	.....	1.97	1.00	2.01	1.65	24.99	20.50	506
														25.00	571
														28.00	120
														28.00	133
4.00	1.97	1.75	7.72	.....	5.97	5.00	10.72	.....	10.72	10.00	2.15	1.65	31.30	29.00	5
														23.50	344
														25.00	350
														27.00	495
														26.00	509
3.69	1.13	1.27	6.09	.....	4.82	3.50	1.87	3.50	5.37	5.00	3.67	3.30	32.40	26.00	1196
.71	5.61	7.49	13.21	†	5.72	.....	2.44	.....	2.44	2.00	2.00	1.65	24.93	27.00	1144
6.11	2.62	1.61	10.34	.....	8.73	8.00	1.85	.....	1.85	1.00	1.04	.82	20.85	18.00	132
														17.50	113
														19.00	307
														24.00	570
4.78	3.74	.85	9.37	.....	8.52	8.00	2.44	.....	2.44	2.00	.54	.41	15.33	16.00	869
														16.50	114
														16.00	939
														25.00	306
														20.50	343
6.35	1.92	1.84	10.11	.....	8.27	8.00	5.38	.....	5.38	5.00	2.05	1.65	28.59	25.00	162
														23.00	351
														24.00	494
5.84	2.33	1.07	9.24	.....	8.17	8.00	1.62	.....	1.62	1.00	1.87	1.65	23.34	24.00	955
4.63	1.77	1.09	7.49	.....	*6.49	7.00	6.61	.....	*6.61	7.00	4.24	2.88	37.24	35.00	621
3.86	4.31	2.28	10.45	.....	8.17	8.00	5.97	.....	5.97	2.00	.87	.82	23.65	19.00	966
														21.00	493
6.32	2.81	2.09	11.22	.....	9.13	8.00	4.19	.....	4.19	4.00	1.69	.82	26.73	23.00	6
														19.50	508
														22.00	1091
4.38	2.06	.89	7.33	.....	6.44	6.00	8.04	.....	8.04	7.00	*4.02	4.12	37.52	.....	447
5.67	2.72	1.25	9.64	.....	8.39	8.00	5.19	.....	5.19	4.00	.94	.82	23.28	24.00	815
2.98	4.30	1.87	9.15	.....	7.28	7.00	5.12	.....	5.12	5.00	.93	.82	22.09	19.50	926
5.71	2.64	2.23	10.58	.....	8.35	7.00	2.95	.....	*2.95	3.00	*1.43	1.65	23.64	25.00	545
														25.00	319
														24.00	845
5.93	2.55	2.52	11.00	.....	8.48	8.00	5.85	.....	*5.85	6.00	*2.04	2.47	29 55	29.00	844
6.14	2.63	2.51	11.28	.....	8.77	8.00	6.02	.....	6.02	6.00	*1.58	2.47	28.02	28.00	1184
2.22	4.44	.93	7.59	7.00	6.66	6.00	2.08	.....	2.08	2.00	.92	.82	17.65	19.00	1067

*Constituent falls below guaranty. †Guaranty 11 per cent. phosphoric acid (insoluble).

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
816	†Sure Crop,	E. H. Smith,, Guy's Mills,	12.48
233		P. L. Touhey, Warrenham,	
1106		A. E. Mowry, Meshoppen,	
1108	Stockbridge Manure,	Horace Seamens, Factoryville,	11.68
817	†Six Per Cent. Potato Fertilizer,	E. H. Smith, Guy's Mills,	10.90
364		Walter Pierce, East Smithfield,	
1203		M. C. Deitrick, Kempton,	
712	†Corn and Grain Grower,	Jesse Everett, Elkland,	12.83
94		A. J. Frederkeil, Harmarville,	
723		J. B. Donovan, Lacyville,	
42	Farm and Garden Phosphate,	R. M. Smith, Center Hall,	10.19
411	†Ammoniated O. I. O.,	G. M. Englehart, Mifflinburg,	11.31
445		J. H. Kase & Co., Riverside,	
363	†Potash or Staple Phosphate,	Walter Pierce, East Smithfield,	13.09
41		R. M. Smith, Center Hall,	
837		Osro Wykoff, Saegerstown,	
303	Corn and Grain Grower,	Abram Hostettler, Scalp Level,	8.50
1109	Market Gardner,	Horace Seamens, Factoryville,	10.67
679	Stockbridge Potato and Vegetable Manure,	W. C. Beckert, Allegheny,	7.35
302	Stockbridge Potato and Vegetable Manure,	A. Hostettler, Scalp Level,	9.57
95	†Hill and Drill Phosphate,	A. J. Federkell, Harmarville,	11.41
301		A. Hostettler, Scalp Level,	
	Buffalo Fertilizer Co., Buffalo, N. Y.		
413	†Farmer's Choice,	John H. Wingert, Lewisburg,'	9.96
375		F. R. Strong, Columbia Cross R'ds,	
805		Benjamin Corwin, Pleasantville,	
681	†Ideal Wheat and Corn,	J. B. Wilson, New Sheffield,	10.15
414		John H. Wingert, Lewisburg,	
804		Benjamin Cowln, Pleasantville,	
1123	†Vegetable and Potato,	D. W. Terry, Lawton,	10.63
801		Kernochan & Co., Titusville,	
1161		S. H. Purdy, Murdocksville,	
826	†Ammoniated Bone Black,	L. E. Britton, Saegerstown,	7.81
1159		S. H. Purdy, Murdocksville,	
827	†Fish Guano,	L. E. Britton, Saegerstown,	7.15
713		Albert Kay, Elkland,	
1155		S. H. Purdy, Murdocksville,	
244	†Celery and Potato Special,	W. R. Sechler, Somerset,	11.16
221		Orwell Club, Orwell,	
412		John H. Wingert, Lewisburg,	
	Cambria Fertilizer Works, Johnstown, Pa.		
944	†Standard Phosphate,	W. H. Reese, Wilmore,	9.94
1213		Bloom, Notley & Kimball, Ebensburg,	
946	†Corn and Potato Manure,	W. H. Reese, Wilmore,	8.50
1214		Bloom, Notley & Kimball, Ebensburg,	
1212	Cambria Special,	Bloom, Notley & Kimball, Ebensburg,	7.67
	Henry Cope & Co., Lincoln University, Pa.		
139	Ammoniated Bone Phosphate,	E. B. Wood, Avondale,	7.71
156	Potato and Corn Phosphate,	Henry Cope & Co., Oxford,	9.35
	Josiah Cope & Co., Lincoln University, Pa.		
149	†Potato and Tobacco Fertilizer,	O. W. Shortlidge, & Co., Lin. Univ.,	10.94
581		L. A. Gelger, Joanna,	
368	†Try Me Bone Phosphate,	F. D. A. Kingsley, East Smithfield,	11.91
151		O. W. Shortlidge & Co., Lin. Univ.,	
583		L. A. Gelger, Joanna,	
520	†Ammoniated Bone Phosphate,	P. J. Artz, Gratz,	11.65
152		O. W. Shortlidge & Co., Lin. Univ.,	
582		L. A. Gelger, Joanna,	
148	Pure Bone Phosphate,	O. W. Shortlidge & Co., Lin. Univ.,	10.20
	E. Daron, Dover, Pa.		
891	Harvest King Bone Phosphate,	E. Daron, Dover,	12.53

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
6.20	3.00	1.57	10.77	10.00	9.20	9.00	2.35	.....	2.35	2.00	1.12	.82	22.00	24.00	816
														20.00	233
														20.00	1106
3.56	1.86	1.23	6.65	5.00	5.42	4.00	10.00	.....	10.10	10.00	*3.38	5.77	35.91	35.00	1108
														28.00	817
3.91	2.26	1.10	7.27	7.00	6.17	6.00	6.76	.....	6.76	6.00	1.17	.82	23.30	25.00	364
														25.00	1203
														27.00	712
6.64	2.68	.88	10.20	9.00	9.32	8.00	4.05	.....	4.05	4.00	1.06	.82	23.38	25.00	94
														25.00	723
5.19	2.98	1.68	9.85	9.00	8.17	8.00	2.24	.....	2.24	2.00	1.82	1.65	25.17	23.00	42
6.95	3.18	1.11	11.24	11.00	10.13	10.00	.80	.....	.80	.....	.77	.62	19.66	13.88	411
														15.00	445
														23.00	363
6.04	2.01	1.20	9.25	9.00	8.05	8.00	3.42	.....	3.42	3.00	1.00	.82	21.34	17.00	41
														25.00	837
4.56	2.37	1.45	*8.38	9.00	*6.93	8.00	4.25	.....	4.25	4.00	.90	.82	20.65	20.00	303
4.82	1.71	.99	7.52	7.00	6.53	6.00	9.91	.....	*9.91	10.00	2.74	2.47	34.02	35.00	1109
4.35	1.90	2.06	8.31	7.00	6.25	6.00	10.01	.....	10.01	10.00	*3.23	3.30	36.55	35.00	679
2.18	3.44	2.18	7.80	7.00	*5.62	6.00	11.10	.....	11.10	10.00	3.36	3.30	37.33	32.00	302
5.64	3.11	2.28	11.03	10.00	*8.75	9.00	2.69	.....	2.69	2.00	2.63	2.47	29.12	30.00	95
														24.00	301
														18.50	413
4.11	3.88	1.95	9.94	9.00	*7.99	8.00	.53	3.59	*4.12	5.00	.84	.82	22.12	26.00	375
														25.00	805
														23.25	681
3.63	3.83	1.89	*9.35	10.00	*7.46	9.00	.67	3.83	*4.50	5.00	*1.51	1.65	24.85	21.50	414
														28.00	804
														30.00	1123
4.72	5.26	1.17	11.15	9.00	9.98	8.00	2.80	1.42	*4.22	7.00	*1.70	2.47	27.21	35.00	801
														28.00	1161
4.56	4.35	1.81	10.72	9.00	8.91	8.00	.80	1.90	2.70	2.00	*.97	1.24	21.68	25.00	826
														20.00	1159
														23.00	827
4.26	4.55	1.71	10.52	10.00	*8.81	9.00	2.25	.....	2.25	2.00	1.02	.82	20.91	17.00	713
														18.00	1155
														20.00	244
4.20	3.16	1.38	*8.74	9.00	*7.36	8.00	6.80	2.01	*8.81	10.00	*1.45	1.65	28.41	23.75	221
														26.00	412
3.77	2.60	1.48	7.85	7.00	6.37	6.00	4.44	.....	4.44	3.00	2.11	1.50	25.53	24.00	944
														26.00	1213
4.22	2.23	1.50	7.95	7.00	6.45	6.00	5.07	4.27	9.34	8.00	1.98	.50	31.00	28.00	946
														32.00	1214
3.31	2.86	1.21	*7.38	9.00	*6.17	8.00	7.15	.....	7.15	4.00	*1.78	2.06	26.62	26.00	1212
1.90	6.43	2.62	10.95	10.00	*8.33	9.00	2.40	.....	2.40	2.00	.87	.82	20.12	23.00	139
2.91	4.07	3.03	10.01	9.00	*6.98	8.00	4.56	.....	4.56	4.00	1.37	1.24	23.53	24.00	156
6.83	4.40	1.33	12.56	.....	11.23	10.00	6.10	.....	*6.10	7.00	.82	.82	26.43	24.00	149
														23.00	581
														23.00	368
4.51	2.94	1.69	9.14	.....	*7.45	8.00	4.36	.....	4.36	4.00	1.78	1.65	25.28	23.00	151
														23.00	583
														17.00	520
4.77	2.82	1.43	9.02	.....	*7.59	8.00	3.23	.....	3.23	3.00	.95	.82	20.46	20.00	152
														20.00	582
6.27	2.09	4.54	*12.90	13.50	*8.36	9.00	4.71	.....	4.71	4.00	2.00	1.85	29.04	25.00	148
3.76	4.83	.20	*8.79	10.00	8.59	8.00	4.73	.....	*4.73	5.00	1.79	1.65	26.05	21.00	891

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	J. Scott Dickey, Lancaster.		
594	†Eagle Brand,	J. D. Sellers, Ephrata,	8.24
1033		J. W. Toubert, Duncannon,	
592	Tobacco and Truck Fertilizer No. 2,	J. D. Sellers, Ephrata,	10.80
593	Tobacco and Truck Fertilizer No. 1,	J. D. Sellers, Ephrata,	9.85
	Jas. G. Downward Co., Coatesville, Pa.		
167	Special Potato & Tobacco Fertilizer,	C. J. Marshall, Doe Run,	7.98
137	†Special Corn Manure,	Jas. G. Downward & Co., Avondale,	10.19
1146		George W. Niblock, Ambler,	
1148	Special Wheat and Grass Fertilizer,	George W. Niblock, Ambler,	7.10
136	†Special Potato Fertilizer,	Jas. G. Downward & Co., Avondale,	9.86
1147		George N. Niblock, Ambler,	
1145	Royal Bone Phosphate,	George N. Niblock, Ambler,	8.14
	Eureka Fertilizer Co., Perryville, Md.		
893	Imperial Bone Phosphate,	W. S. Epley, Dover,	6.92
432	†Potato and Vegetable Fertilizer,	W. A. Fisher, New Columbia,	8.48
98		H. G. Landis, Linglestown,	
473		W. E. Urich, Myerstown,	
505		A. W. Dunkle, Halifax,	
479	†Corn and Potato Special,	L. G. Landis, Linglestown,	7.30
187		W. F. Miller, Pine Grove,	
767		Francis Eberharter, Mill Run,	
894		W. S. Epley, Dover,	
185	Grain and Grass Mixture,	W. F. Miller, Pine Grove,	8.08
475	Fish Bone and Potash,	W. E. Urich, Myerstown,	8.91
431	†Eureka Complete Compound,	W. A. Fisher, New Columbia,	7.23
184		W. F. Miller, Pine Grove,	
918		W. S. Epley, Dover,	
969	Farmer's Favorite Bone Phosphate,	Levi Kaltreider, Red Lion,	6.84
772	†Fish Bone and Potash,	L. G. Landis, Linglestown,	6.93
895		W. S. Epley, Dover,	
474	†H. G. Trucker,	W. E. Urich, Myerstown,	7.87
186		W. F. Miller, Pine Grove,	
1220		G. J. Jones, Ebensburg,	
480	Farmer's Favorite Bone Phosphate,	L. G. Landis, Linglestown,	7.85
	Farmer's Fertilizer Co., Westminster, Md.		
205	Carroll Bone Phosphate,	D. E. Brown, East Berlin,	5.64
	Farmer's Fertilizer Co., York, Pa.		
924	Monarch Fertilizer,	D. A. Fry, Dillsburg,	6.25
	Farmer's Fertilizer Works, Elizabethtown, Pa.		
790	No. 1 Bone Phosphate,	M. N. Risser, Palmyra,	10.81
789	Animal Bone and Potash,	M. N. Risser, Palmyra,	12.79
	W. S. Farmer & Co., Baltimore, Md.		
32	Clyde Brand,	J. S. Waite, & Co., Bellefonte,	10.20
	Griffith & Boyd, Baltimore, Md.		
707	†Valley Fertilizer,	Richland Heverly, Overton,	10.47
559		J. G. Miller, Rockwood,	
759		A. A. Corristan, Ohio Pyle,	
890		Henry Linebaugh, Roler,	
418	†Spring Crop Grower,	W. G. Kline,, Lewisburg,	11.70
468		A. B. Harnish, Mechanicsburg,	
44		Benjamin Limbert, Spring Mills,	
519		J. J. Coleman, Gratz,	
560		J. G. Miller, Rockwood,	
608		Geo. H. Hegner, Sewickley,	
410	†Peerless Fertilizer,	Newton Barber, Mifflinburg,	11.78
417		W. G. Kline, Lewisburg,	
200		M. H. Gochnauer, Hall,	
515		J. J. Coleman, Gratz,	
610		Geo. H. Hegner, Sewickley,	
638		S. N. Moorehead & Son, Indiana,	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
3.14	5.43	2.14	*10.72	14.00	8.57	6.00	2.17	.....	*2.17	4.00	1.00	.82	20.66	18.00	594
														.....	1033
3.12	4.88	1.81	9.81	.....	8.00	6.00	5.22	.....	*5.22	7.00	1.65	1.65	25.95	23.00	592
2.37	4.40	2.19	*8.96	14.00	6.77	6.00	7.18	.....	*7.18	10.00	*1.90	2.06	28.00	26.00	593
5.19	2.80	1.25	9.24	8.00	7.99	7.00	3.51	.....	*3.51	6.00	*.85	1.24	20.66	27.00	167
5.20	2.75	1.17	9.12	9.00	*7.95	8.00	4.42	.....	4.42	3.50	*1.59	1.65	24.36	.....	137
														28.00	1146
4.41	3.60	3.85	11.86	8.00	8.01	7.00	2.54	.....	*2.54	3.00	*1.62	1.65	24.16	30.00	1148
5.34	2.22	.91	8.47	8.00	7.56	7.00	5.03	.....	*5.03	6.00	*1.18	1.24	23.20	27.00	136
														30.00	1147
4.46	3.04	1.63	9.13	9.00	*7.50	8.00	2.73	.....	2.73	2.00	.77	.82	19.08	25.00	1145
2.84	6.50	1.73	11.07	10.00	9.34	8.00	2.89	.....	2.89	1.00	.82	.82	21.06	18.25	893
														22.00	432
2.29	6.60	3.66	12.55	9.00	8.89	8.00	3.10	.....	*3.10	4.00	*1.17	1.65	23.25	21.00	98
														23.00	473
														.....	505
														19.00	479
3.23	5.96	3.01	12.20	11.00	9.19	9.00	2.46	.....	*2.46	3.00	.88	.82	21.56	22.00	187
														21.00	767
														20.00	894
2.23	6.83	3.05	12.11	10.00	9.06	8.00	4.21	.....	4.21	2.00	1.11	.82	24.00	19.00	185
2.72	6.89	3.84	13.45	9.00	9.61	8.00	3.10	.....	3.10	1.00	1.24	.41	24.51	17.00	475
														19.00	431
2.58	6.02	2.46	11.06	9.00	8.60	7.00	3.09	.....	*3.09	5.00	*.73	.82	20.65	22.00	184
														21.00	918
2.14	5.86	2.52	10.52	10.00	8.00	8.00	2.22	.....	2.22	2.00	1.97	1.65	24.45	20.00	909
1.20	7.56	2.68	11.44	9.00	8.76	8.00	2.07	.....	2.07	1.00	.55	.41	15.31	16.00	772
														17.00	895
														27.00	474
2.75	5.29	2.85	10.89	9.00	8.04	8.00	7.00	.....	*7.00	10.00	*1.54	1.65	27.86	28.00	186
														29.00	1220
2.39	7.05	2.90	12.34	10.00	9.44	8.00	1.89	.....	*1.89	2.00	*.96	1.65	21.32	19.00	480
3.07	4.50	1.01	8.58	8.00	7.57	7.00	2.88	.....	2.88	2.00	.62	.41	18.18	17.00	205
2.56	3.00	.93	*6.49	11.45	*5.56	9.45	4.37	.....	*4.37	5.25	*.54	1.94	17.38	22.00	924
3.97	4.29	1.36	9.62	.....	8.26	8.00	2.11	.....	2.11	2.00	*1.07	1.65	20.26	18.00	790
3.47	3.90	2.40	9.77	.....	7.37	7.00	5.30	.....	5.30	5.00	*1.48	1.65	25.10	22.00	789
5.30	2.25	1.21	*8.76	9.00	*7.55	8.00	2.24	.....	2.24	2.00	1.01	.82	19.59	19.50	32
														22.00	707
6.94	2.05	1.34	10.33	9.00	8.99	8.00	1.20	1.93	3.13	3.00	.41	.41	17.67	17.00	559
														20.00	759
														16.00	890
														22.00	418
														22.00	468
7.10	.98	.88	8.96	7.50	8.08	6.50	3.80	.....	*3.90	4.50	*1.52	1.65	24.08	24.00	44
														21.25	519
														23.00	560
														21.00	608
														16.00	410
														15.00	417
6.41	2.62	1.75	10.75	9.00	9.03	8.00	2.25	.....	2.25	2.00	.38	.29	15.31	15.00	200
														15.00	515
														20.00	610
														18.00	638

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
561	†Farmer's Potato Manure,	J. G. Miller, Rockwood,	9.06
576		W. G. Crowe, Point Marion,	
310		J. G. Varner, Elton,	
601		A. J. Norris & Bro., Culmerville,	
639		S. N. Moorehead & Son, Indiana,	
607	†Fish Bone and Potash,	Geo. H. Hegner, Sewickley,	11.50
87		L. & F. Hobery, Sharpsburg,	
632		E. S. Gramling, South Fork,	
641		S. N. Moorehead & Son, Indiana,	
558	†Stable Manure Substitute,	J. G. Miller, Rockwood,	9.11
158		Passmore & Gillispie, Nottingham,	
857		Elam G. Book, Refton,	
860	Double Strength Tobacco Manure,	Elam G. Book, Refton,	9.85
	S. M. Hess & Bro., Philadelphia, Pa.		
269	†Keystone Bone Phosphate,	Howard Fike, Meyersdale,	12.98
141		Lewis Good, Landenberg,	
287		J. Snyder, Rockwood,	
476	Ammoniated Bone Superphosphate,	John Yingst, Prescott,	11.83
665	†Potato and Truck Manure,	Mahlon M. Fritz, Perkasie,	11.03
270		Howard Fike, Meyersdale,	
709		H. E. Faucett, Elkland,	
518	Special Compound,	J. W. Hoffman, Gratz,	11.36
288	†Special Corn Manure,	J. Snyder, Rockwood,	11.58
268		Howard Fike, Meyersdale,	
664		Mahlon M. Fretz, Perkasie,	
708		H. E. Fawcett, Elkland,	
663	†Special Potato Manure,	Mahlon M. Fretz, Perkasie,	9.85
1072		J. C. Mierley, Alexandria,	
	Wm. J. Hess, Quarryville, Pa.		
854	No. 2 for Grain and Grass,	Wm. J. Hess, Quarryville,	9.62
	Hubbard Fertilizer Co., Baltimore, Md.		
333	Columbia Gem Phosphate,	Wesley Seltzer, Orwigsburg,	11.67
901	Standard Bone Superphosphate,	G. B. Murphy, Keys,	5.05
332	Farmer's I. X. L. Superphosphate,	Wesley Seltzer, Orwigsburg,	8.19
427	Climax Bone Superphosphate,	Ephraim Everett, Watsontown,	11.78
	M. P. Hubbard & Co., Baltimore, Md.		
976	Farmer's Acme Fertilizer,	J. L. Johns & Son, Millville,	10.10
978	Farmer's Old Economy,	J. L. Johns & Sons, Millville,	8.10
896	†Special Potato and Tomato Fertilizer,	H. S. Swartz, Dover,	8.32
977		J. L. Johns & Son, Millville,	
	International Seed Co., Rochester, N. Y.		
832	Potato and Truck Manure,	S. E. Torry, Cambridge Springs,	12.20
831	No. A Special,	S. E. Torry, Cambridge Springs,	9.70
	Jarecki's Chemical Co., Sandusky, O.		
694	†Lake Erie Fish Guano,	K. Stoner, White Ash,	12.50
260		John Mosholder, Berlin,	
812		Clark Bros., Oil City,	
615	†O. K. Fertilizer,	T. H. Munnell, Canonsburg,	7.51
276		Jas. Maust, West Salisbury,	
810		Clark Bros., Oil City,	
273	†No. 1 Fish Guano,	Jas. Maust, Elklick,	11.60
262		John Mosholder, Berlin,	
613		T. H. Munnell, Canonsburg,	
275	†Fish and Potash Potato and Tobacco Food.	Jas. Maust, Elklick,	13.70
614		T. H. Munnell, Canonsburg,	
811	High Potash Guano,	Clark Bros., Oil City,	12.06
274	Raw Bone and Guano Mixture,	Jas. Maust, Elklick,	9.50
	Lancaster Chemical Co., Lancaster, Pa.		
862	No. 1 Tobacco and Vegetable Fertilizer,	Geise & McBride, Elizabethtown,	8.21

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 13.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.		Found.	Guaranteed.			
			Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.					
7.18	1.40	1.59	10.17	9.00	8.58	8.00	9.56	.....	9.56	9.00	.88	.82	27.98	24.00	561
														24.00	576
														26.00	310
														26.00	601
														28.00	639
5.92	1.66	1.30	*8.88	11.00	*7.58	10.00	3.05	.....	3.05	2.00	1.55	1.44	23.04	25.00	607
														23.00	87
														24.00	632
														24.00	641
4.11	2.55	2.14	8.80	6.00	6.66	5.00	4.09	.....	4.09	4.00	*2.39	2.88	27.15	25.00	558
														26.00	158
														26.00	857
4.92	2.78	2.57	10.27	9.00	*7.70	8.00	3.25	.....	3.25	3.00	2.35	2.47	27.36	25.50	8.60
														21.00	269
4.08	3.60	1.75	9.43	9.00	*7.68	8.00	1.27	.....	1.27	1.00	.93	.82	18.62	18.00	141
														.....	287
4.41	3.70	2.11	10.22	9.00	8.11	8.00	2.20	.....	2.20	2.00	2.03	1.65	25.06	23.00	476
														.....	665
6.02	2.52	1.28	9.82	9.00	8.54	8.00	6.10	.....	6.10	6.00	*2.45	2.47	31.02	31.00	270
														30.00	709
5.00	2.52	1.22	*8.74	9.00	*7.52	8.00	4.35	.....	4.35	4.00	.84	.82	21.04	23.00	518
														.....	288
5.20	3.36	1.64	10.20	9.00	8.56	8.00	2.20	.....	2.20	2.00	.95	.82	20.49	22.00	268
														.....	664
														20.00	708
5.24	2.33	1.81	9.38	9.00	*7.57	8.00	7.80	.....	7.80	7.00	*3.11	3.30	34.92	.....	663
														32.00	1072
3.23	4.08	.36	7.67	.....	7.31	7.00	1.23	.....	1.23	1.00	.82	.82	16.80	18.50	854
5.83	2.34	.75	8.92	.....	8.17	8.00	1.11	.....	1.11	1.00	1.49	.41	21.07	16.00	333
2.89	3.81	2.82	9.52	.....	*6.70	8.00	3.08	.....	3.08	3.00	1.75	1.65	23.47	20.50	901
4.02	4.55	1.57	10.14	.....	8.57	8.00	2.99	.....	2.99	2.00	2.07	1.65	26.06	21.00	332
5.72	1.56	.82	8.10	.....	7.28	7.00	4.05	.....	4.05	4.00	1.05	.82	21.28	18.55	427
6.67	2.40	.41	9.48	8.00	9.07	7.00	2.78	.....	2.78	2.00	*1.52	1.65	23.65	20.00	976
6.76	2.09	.27	9.12	9.00	8.85	8.00	2.13	.....	2.13	2.00	.46	.41	14.82	16.00	978
5.43	2.87	.47	8.77	6.00	8.30	5.00	5.31	.....	5.31	3.00	*1.50	1.65	25.32	24.00	896
														22.00	977
6.16	2.71	.56	9.43	9.00	8.87	8.00	7.39	.....	7.39	7.00	1.25	1.24	27.06	28.00	832
4.76	2.40	1.56	8.72	7.00	7.16	6.00	9.26	.....	*9.26	10.00	*2.43	2.47	32.90	32.00	831
3.49	6.44	2.14	12.07	11.00	*9.93	10.00	2.20	.....	2.20	2.00	*.80	.82	21.18	25.00	694
														21.50	260
														26.00	812
3.70	3.06	1.59	8.35	7.00	6.76	6.00	.87	.....	.87	.50	.60	.41	15.62	16.00	615
														.....	276
														26.00	810
3.34	5.24	2.59	11.17	11.00	8.58	10.00	1.11	.....	1.11	1.00	*.76	.82	18.75	22.50	273
														20.50	262
														23.00	613
4.14	4.14	1.56	9.84	9.00	8.28	8.00	3.27	.....	*3.27	4.00	.82	.82	20.48	.....	275
														26.00	614
5.39	4.22	1.33	10.94	10.00	9.61	9.00	6.31	.....	*6.31	7.00	.93	.82	25.57	26.00	811
3.62	6.22	7.91	17.75	16.00	9.84	.....	.67	.80	1.47	1.00	1.97	1.65	29.58	24.00	274
4.60	2.56	2.72	9.88	8.50	*7.16	7.50	1.20	6.32	7.52	7.00	*1.96	2.06	30.58	30.00	862

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
920	Dewey Brand for Tobacco and Spring Crops, No. 2.	C. J. Bushey, Dillsburg,	10.70
923	No. 6 Hard Times Fertilizer,	C. J. Bushy, Dillsburg,	10.68
863	†No. 14 Wheat and Grass Fertilizer,	Geise & McBride, Elizabethtown,	8.20
922		C. J. Bushy, Dillsburg,	
781	Keystone Brand No. 11,	Cyrus Zimmerman, Bismarck,	9.40
	D. Levan, Lebanon, Pa.		
104	Lebanon Special Fertilizer,	W. A. Bailets, Lucknow,	12.41
19	Lebanon Wheat and Grass Fertilizer,	Horace Reighner, Pottstown,	14.96
360	General Crop Grower,	Geo. K. Linderman, Scarlets Mill,	7.57
358	†Special Potato and Tobacco Fertilizer,	Geo. K. Linderman, Scarlets Mill,	11.36
105		W. A. Bailets, Lucknow,	
596		J. D. Sellers, Ephrata,	
457	†Special Corn Fertilizer,	W. A. Bailets, Dauphin,	9.80
359		Geo. K. Linderman, Scarlets Mill,	
595		J. D. Sellers, Ephrata,	
18	Bone and Potato Compound,	Horace Reighner, Pottstown,	9.76
357	†Special Truck Fertilizer,	Geo. K. Linderman, Scarlets Mill,	8.87
106		W. A. Bailets, Dauphin,	
597		J. D. Sellers, Ephrata,	
	E. H. Lippy & Son, Littlestown, Pa.		
871	Crop Grower,	A. P. Lippy, Littlestown,	9.22
873	Blood, Bone and Potash Compound,	A. P. Lippy, Littlestown,	12.89
	Lister's Agricultural Chemical Works, Newark, N. J.		
829	†Ammoniated Dissolved Bone Phosphate,	A. J. Terrell, Cambridge Springs,	10.53
1082		J. B. Groh, Lickdale,	
481	Standard Pure Bone Superphosphate,	Moses Greenwalt, New Ringgold,	11.68
604	†Lester's Success,	A. J. Norris & Bro., Culmerville,	11.15
65		F. L. Heath, Corry,	
1604		W. E. Brown, Lawrenceville,	
68	Potato Manure,	F. L. Heath, Corry,	9.78
625	†Harvest Queen,	A. H. Giffin, Elton,	10.34
792		Martin Brandt, Bachmansville,	
112		M. G. Hale, Shippensburg,	
813		Clark Bros., Oil City,	
883		J. N. Hersh, New Oxford,	
905		G. B. Murphy, Keys,	
822	Lester's No. 2 Corn Fertilizer,	Dewey & Hamilton, Meadville,	12.60
643	†Special Crop Producer,	Frank Douglass, Indiana,	8.66
67		F. L. Heath, Corry,	
1058		A. L. Peachey, Belleville,	
467	†Special 10 per cent. Potato,	D. A. Ulrich, Mechanicsburg,	9.75
408		Levi S. Moyer, Chalfont,	
482		Moses Greenawalt, New Ringgold,	
496		Wm. Kleckner, Kepnersville,	
603	†Corn and Potato Fertilizer,	A. J. Norris & Bro., Culmerville,	10.77
242		Ross Bruner, Rockwood,	
629		A .H. Giffin, Elton,	
243	†Lester's G. Brand,	Ross Bruner, Rockwood,	10.14
377		Snedeker & Mitchell, Troy,	
159		Passmore & Gillispie, Nottingham,	
627		A. H. Giffin, Elton,	
647		G. W. Martin & Co., Saltsburg,	
602	†3-6-10 for Potatoes,	A. J. Norris & Bro., Culmerville,	9.61
466		D. A. Ulrich, Mechanicsburg,	
828		A. J. Terrell, Cambridge Springs,	
378	Oneida Special,	Snedeker & Mitchell, Troy,	9.63
705	Special 10 Per Cent.,	Horton & Norton, New Albany,	8.05
	Mapes Formula & Peruvian Guano Co., New York.		
13	†Mapes Cereal Brand,	Hillis & Taggart, Norristown,	7.70
326		A. F. Kimmel, Orwigsburg,	
460	Complete Manure A. Brand,	E. W. Rupp, Shiremanstown,	8.47
599	Tobacco Starter Improved,	Martin & Muth, Lititz,	7.74
407	†Economical Potato Manure,	Henry S. Beidler, Doylestown,	5.12
328		A. F. Kimmel, Orwigsburg,	
524		P. H. Updegrove, Valley View,	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
5.57	4.04	1.60	11.21	9.00	9.61	8.00	3.94	.....	*3.94	4.00	*1.22	1.24	24.42	22.00	920
3.24	4.87	1.31	9.42	9.00	8.11	8.00	2.39	.....	2.39	2.00	.54	.41	15.02	16.50	923
4.77	4.43	1.32	10.52	9.00	9.20	8.00	2.51	.....	2.51	2.00	.92	.82	20.98	20.00	863
														18.00	922
3.20	4.82	3.30	11.32	8.00	8.02	7.00	1.32	.....	1.32	1.00	*.62	.82	14.77	18.00	781
2.38	5.73	1.13	9.24	.....	8.11	8.00	2.77	.....	2.77	2.00	*1.74	2.06	23.62	23.50	104
4.86	2.70	.54	8.10	.....	*7.56	8.00	3.69	.....	*3.69	5.00	*.75	.82	19.62	22.00	19
3.07	4.94	1.11	9.12	.....	8.01	8.00	1.60	.....	1.60	1.00	*.68	.82	17.72	18.00	360
														24.00	358
3.01	4.53	1.01	8.55	.....	*7.54	8.00	6.29	.....	6.29	6.00	*1.40	1.65	25.14	25.50	105
														22.00	596
														20.00	457
2.24	5.77	1.04	9.05	.....	8.01	8.00	2.80	.....	2.80	2.00	*.75	.82	19.05	19.00	359
														16.00	595
2.60	5.64	1.91	10.15	.....	8.24	8.00	4.98	.....	*4.98	5.00	*1.59	1.65	25.75	25.00	18
														27.00	357
3.35	3.39	1.13	7.87	.....	*6.74	7.00	9.41	.....	*9.41	10.00	*1.40	1.65	27.62	27.50	106
														24.00	597
3.57	3.68	.73	7.98	.....	7.25	7.00	2.42	.....	2.42	1.50	.75	.41	17.94	17.00	871
4.43	3.53	1.30	9.26	.....	*7.96	8.00	2.22	.....	2.22	2.00	.97	.82	19.66	19.00	873
6.23	2.60	1.82	10.65	9.00	8.83	8.00	1.93	.....	1.93	1.50	2.19	2.06	26.28	22.00	829
														24.00	1082
5.65	3.61	2.21	11.47	11.00	9.26	9.00	2.57	.....	2.57	2.00	2.54	2.47	28.95	23.45	481
7.14	2.18	1.90	11.22	11.00	9.32	9.00	2.33	.....	2.33	2.00	1.40	1.24	23.72	22.00	604
														25.00	65
														24.00	1004
4.65	4.24	.52	9.41	9.00	8.89	8.00	7.35	.....	7.35	7.00	3.39	3.30	36.34	35.00	68
														22.00	625
														20.00	792
6.32	2.66	2.24	11.22	11.00	*8.98	9.00	2.29	.....	2.29	2.00	1.43	1.24	23.62	22.00	112
														26.00	813
														23.50	883
														20.00	905
8.72	1.18	1.49	11.39	11.00	*9.90	10.00	4.24	.....	4.24	4.00	1.91	1.65	28.44	25.00	823
4.17	2.86	2.40	9.43	8.00	7.03	7.00	1.29	.....	1.29	1.00	1.02	.82	18.60	20.00	643
														20.00	67
														18.00	1058
4.28	3.06	2.97	10.31	9.00	*7.34	8.00	10.71	.....	10.71	10.00	1.91	1.65	32.74	24.00	467
														27.00	408
														26.95	482
														27.00	496
														24.00	603
4.59	3.12	1.47	9.18	9.00	*7.71	8.00	3.30	.....	3.30	3.00	1.83	1.65	24.66	.....	242
														23.00	629
														.....	243
														21.00	377
5.16	2.53	2.03	*9.72	10.00	*7.69	8.00	4.39	.....	4.39	4.00	1.03	.82	22.53	23.00	159
														21.50	627
														22.00	647
														32.00	602
1.90	4.43	1.77	8.10	7.00	6.33	6.00	10.57	.....	10.57	10.00	2.54	2.47	33.66	31.00	466
														30.00	828
4.52	2.86	1.72	9.10	8.00	7.38	7.00	1.39	.....	1.39	1.00	1.12	.82	19.18	20.00	378
1.75	4.28	6.35	12.38	9.00	*6.03	8.00	9.82	.....	*9.82	10.00	1.75	1.65	31.24	29.75	705
1.13	3.85	3.95	8.93	8.00	14.98	6.00	3.22	.....	3.22	3.00	1.92	1.65	22.94	28.00	13
														27.00	326
3.31	4.73	4.99	13.03	12.00	*8.04	10.00	2.87	.....	2.87	2.50	2.88	2.47	30.70	32.00	469
1.37	3.93	4.21	9.51	8.00	*5.30	6.00	1.07	.66	1.73	1.00	4.51	4.12	33.56	35.00	599
														35.00	407
1.72	2.52	2.33	6.57	6.00	4.24	4.00	1.73	6.96	8.69	8.00	3.38	3.30	34.99	35.00	328
														33.00	524

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
11	Mapes Corn Manure,	Hillis & Taggart, Norristown,	5.30
14	Cauliflower and Cabbage Grower,	Hillis & Taggart, Norristown,	4.91
331	†Vegetable Manure (or Complete Manure	A. F. Kimmel, Orwigsburg,	7.81
777	for Light Soils).	John L. Nissley, Middletown,	
459	Grain Brand,	E. W. Rupp, Shiremanstown,	6.94
406		Henry S. Beidler, Doylestown,	
329	†General Crop Brand,	A. F. Kimmel, Orwigsburg,	7.78
598		Martin & Muth, Lititz,	
405		Henry S. Beidler, Doylestown,	
461		E. W. Rupp, Shiremanstown,	
7	†Potato Manure,	Hillis & Taggart, Norristown,	6.66
523		P. H. Updegrave, Valley View,	
586		E. M. Zerr, Geigertown,	
327	Nitrogenized Superphosphate,	A. F. Kimmel, Orwigsburg,	7.10
	D. B. Martin & Co., Baltimore, Md.		
655	Gilt Edge Potato Manure,	R. C. Fairlamb & Son, Brandywine Summit.	10.58
654		R. C. Fairlamb & Son, Brandywine Summit.	
93	†Corn and Cereal Special,	J. H. Thompson, Harmarville,	11.60
930		Coyle & Diehl, Chambersburg,	
92	Claremont Vegetable Grower,	J. H. Thompson, Harmarville,	10.19
931	One-Eighth and Four,	Coyle & Diehl, Chambersburg,	8.85
166	Special Potato Manure,	J. W. Speakman & Bro., Doe Run,	11.16
	E. Mehring, Bruceville, Md.		
875	$26 Phosphate,	John N. Slifer, Littlestown,	12.85
874	General Crop Grower,	John N. Slifer, Littlestown,	12.08
	Michigan Carbon Works, Detroit, Mich.		
797	General Crop Fertilizer,	Davis & Hyde, Spartansburg,	13.28
798	Red Line Complete Manure,	Davis & Hyde, Spartansburg,	10.50
	Miller Fertilizer Co., Baltimore, Md.		
116	W. G. Phosphate,	Wengel & Wadel, Shippensburg,	8.09
117	Hustler Phosphate,	Wengel & Wadel, Shippensburg,	8.28
916	†Potato and Vegetable Grower,	Elmer J. Markey, York,	8.88
1032		J. R. Gordon & Son, Newport,	
115	Club Brand,	Wengel & Wadel, Shippensburg,	7.10
	Nassau Fertilizer Co., New York.		
499	General Favorite,	W. I. Hoy, Millersburg,	9.69
1162	Wheat and Grass Grower,	W. W. McCullough, Holt,	11.92
477		J. A. Becker, Avon,	
76	†Special Potato Fertilizer,	W. W. McCullough, New Sheffield,	9.89
500		W. I. Hoy, Millersburg,	
478		J. A. Becker, Avon,	
77	†Common Sense Potato Manure,	W. W. McCullough, McCleary,	11.40
501		W. I. Hoy, Millersburg,	
590		Henry Lausch, Denver,	
380	Potato Manure,	Compton & Lilly, Troy,	10.79
	G. Ober & Sons, Baltimore, Md.		
1014	Special Plant Food,	W. M. Atkinson, McVaytown,	12.55
	Ohio Farmer's Fertilizer Co., Columbus, O.		
619	†Corn, Oats and Wheat Fish Guano,	Jos. A. Little, Washington,	7.65
1170		B. F. McClure & Bro., Burgettstown,	
618	†Ammoniated Bone and Potash,	Jos. A. Little, Washington,	7.83
834		A. A. Greenlee, Cambridge Springs,	
833	Excelsior Guano,	A. A. Greenlee, Cambridge Springs,	9.07
	Oxford Packing Works, Oxford, Pa.		
155	O. P. N. No. 1,	Oxford Packing Works, Oxford,	10.66

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
1.47	4.80	4.76	11.03	10.00	*6.27	8.00	6.44	.....	6.44	6.00	2.63	2.47	31.26	34.00	11
2.14	3.46	2.34	7.94	7.00	*5.60	6.00	6.72	.....	6.72	6.00	4.35	4.12	37.33	38.00	14
.77	4.39	3.81	8.97	8.00	*5.16	6.00	1.87	5.17	7.04	6.00	5.42	4.94	43.36	40.00	331
														42.50	777
4.13	3.51	1.49	9.13	.....	*7.64	8.00	4.93	.....	4.93	4.00	.93	.82	22.24	24.00	459
														26.00	406
3.34	3.45	3.22	10.01	10.00	*6.79	8.00	2.57	.....	2.57	2.00	1.75	1.65	23.25	25.00	329
														22.00	598
														36.00	405
														36.00	461
2.74	4.29	2.89	9.92	9.00	*7.03	8.00	2.53	4.78	7.31	6.00	3.91	3.71	38.50	38.00	7
														36.00	523
														39.00	586
1.67	3.78	6.05	11.50	11.00	*5.45	9.00	2.91	.....	2.91	2.50	*1.92	2.06	24.14	29.00	327
3.68	2.95	2.48	9.11	.....	*6.63	7.00	9.71	.....	*9.71	10.00	2.47	2.47	33.19	30.00	655
														23.00	654
4.74	4.53	2.84	12.11	.....	9.27	8.00	2.42	.....	2.42	2.00	*1.53	1.65	24.56	24.00	93
														19.00	930
2.69	4.29	5.08	12.06	.....	*6.98	7.00	5.14	.....	5.14	5.00	2.47	2.47	30.01	29.00	92
4.53	5.51	2.70	12.74	.....	10.04	8.00	3.49	.....	*3.49	4.00	.92	.82	23.47	18.00	931
4.05	3.81	2.17	10.03	.....	*7.86	8.00	5.07	.....	5.07	5.00	1.01	.82	23.07	.....	166
6.84	5.09	4.40	16.33	13.00	*11.93	12.00	1.48	.....	*1.48	1.50	1.38	1.24	26.56	18.00	875
6.43	5.02	4.48	15.93	12.00	11.45	11.00	1.45	.....	1.45	1.25	.93	.82	19.36	16.00	874
3.77	4.27	.58	*8.62	9.00	8.04	8.00	4.51	.....	4.51	4.00	1.02	.82	21.86	22.00	797
3.76	3.52	.92	8.20	8.00	7.28	7.00	1.65	.....	1.65	1.00	1.06	.82	18.65	19.00	798
2.44	5.03	.77	*8.24	8.50	7.47	7.00	1.33	.....	1.33	1.00	.75	.41	16.98	15.75	116
2.07	4.59	.83	*7.49	9.50	*6.66	8.00	1.65	.....	1.65	1.00	1.20	.82	18.45	17.00	117
4.95	3.18	1.50	9.63	9.50	8.13	8.00	4.16	.....	4.16	4.00	1.65	1.65	25.11	23.00	916
														.....	1032
4.08	4.82	.71	9.61	9.50	8.90	8.00	2.13	.....	2.13	2.00	.64	.41	18.86	16.75	115
5.18	3.36	.98	9.52	9.00	8.54	8.00	4.13	.....	4.13	4.00	.95	.82	22.15	19.00	499
5.85	2.62	.84	9.31	9.00	8.47	8.00	2.46	.....	2.46	2.00	1.10	.82	21.01	18.60	1162
														27.00	477
5.61	2.40	1.42	9.43	9.00	8.01	8.00	11.02	.....	11.02	10.00	1.87	1.65	32.89	27.05	76
														27.00	500
														24.00	478
5.05	2.68	2.06	9.79	9.00	*7.73	8.00	4.83	.....	4.83	4.00	1.73	1.65	26.16	22.55	77
														22.00	501
														21.00	590
5.72	2.51	2.19	10.42	9.00	8.23	8.00	4.51	.....	4.51	4.00	1.80	1.65	26.60	27.00	380
7.38	2.67	1.78	11.83	11.00	10.05	9.00	4.56	.....	*4.56	5.00	*1.56	1.65	27.33	.....	1014
.78	5.69	3.29	9.76	.....	*6.47	8.00	1.97	.....	*1.97	2.00	*.83	1.24	18.04	22.00	619
														24.00	1170
.88	6.63	2.98	10.49	.....	*7.51	8.00	4.12	.....	4.12	4.00	.86	.82	21.14	23.00	618
														23.00	834
.97	7.09	2.46	10.52	.....	8.06	.....	6.53	.....	6.53	.....	.59	.....	19.58	26.00	833
4.95	3.75	4.79	13.49	8.06	8.70	7.68	6.35	.....	*6.35	10.00	*1.27	1.44	27.69	26.00	155

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Patapsco Guano Co., Baltimore, Md.		
453	†Coon Brand Guano,	W. F. Slagle, Bloomsburg,	11.66
785		J. O. S. Burkholder, Hummelstown,	
256		N. D. Broucher, Somerset,	
897		R. W. Dremming, Wrightsville,	
956		Francis Baker, Everett,	
278	Patapsco Grain and Grass Producer,	Andrew Richel, Meyersdale,	9.35
899	Grange Mixture,	Purd A. Geesey, York,	10.10
451	†Sea Gull Guano,	W. F. Slagle, Bloomsburg,	12.40
898		R. W. Dremming, Wrightsville,	
279	†Tobacco and Potato Fertilizer,	Andrew Richel, Meyersdale,	11.19
210		Simon F. Becker, New Baltimore,	
455		W. F. Slagle, Bloomsburg,	
290	†Patapsco Corn and Tomato Fertilizer,	W. H. Black, Ebensburg,	12.45
212		Simon F. Becker, New Baltimore,	
572		M. Heilman & H. R. Umbell, Tokey Hollow.	
454	Patapsco Fish Guano,	W. F. Slagle, Bloomsburg,	8.42
280	†Patapsco Early Trucker for Quick Growth.	Andrew Richel, Meyersdale,	9.72
209		Simon F. Becker, New Baltimore,	
452		W. F. Slagle, Bloomsburg,	
	Patapsco Guano Co., Baltimore, Md.		
211	†Blood, Bone and Potash for all Crops,	Simon F. Becker, New Baltimore,	10.45
449		W. F. Slagle, Bloomsburg,	
277	†Coon Brand,	Andrew Richel, Meyersdale,	11.39
289		W. H. Black, Ebensburg,	
	Penn'a Ammonia & Fertilizer Works, Harrisburg, Pa.		
925	†Dauphin Brand,	Spera Bro., Dillsburg,	8.03
160		A. W. Carlisle, Lucknow,	
1037	†Potato, Vegetable and Tobacco,	C. E. Gilbough, Duncannon,	7.10
97		A. W. Carlisle, Estherton,	
99	†Dissolved Bone and Potash,	A. W. Carlisle, Lucknow,	8.76
107		A. W. Carlisle, Coxestown,	
1038		C. E. Gilhough, Duncannon,	
	J. D. Perkins, Coatesville, Pa.		
385	Monarch Phosphate,	J. D. Perkins, Coatesville,	13.42
168	Special Bone Manure,	J. D. Perkins, Coatesville,	11.54
	Piedmont-Mt. Airy Guano Co., Baltimore, Md.		
953	Piedmont Royal Ammoniated Bone and Potash.	J. S. Hershberger, Everett,	8.19
295	†Piedmont Pure Raw Bone Mixture,	D. J. Davis, Ebensburg,	9.12
297		A. F. Stutzman, Johnstown,	
616	†Piedmont Penn'a Potato Producer,	Jos. A. Little, Washington,	8.29
1064		John G. Simpson, Huntingdon,	
617	†Levering's Standard,	Jos. A. Little, Washington,	10.06
1065		John G. Simpson, Huntingdon,	
1046	Piedmont Grain and Grass Grower,	Steinniger Bros., Middleburg,	7.37
	Pittsburg Provision Co., Pittsburg, Pa.		
683	†Corn and Potato Fertilizer,	W. C. Goll, Monaca,	6.28
757		J. H. Miller, Connelsville,	
83		Scobie & Parker, Pittsburg,	
769		J. C. O'Donnell, Stewarton,	
809		W. J. Gilson, Titusville,	
161	†Keystone Fertilizer,	Passmore & Gillispie, Nottingham,	10.80
82		Scobie & Parker, Pittsburg,	
684		W. C. Goll, Monaca,	
808		W. J. Gilson, Titusville,	
84	Lawn Fertilizer,	Scobie & Parker, Pittsburg,	3.91
1175	Pure Bone With Potash,	Harrison Rankin, Lisbon,	7.68

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.		Found.	Guaranteed.			
			Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.					
														20.00	453
														18.50	785
5.58	2.91	1.27	*9.76	10.00	*8.49	9.00	3.08	.....	3.08	3.00	.85	.82	20.78	21.00	256
														18.50	897
														22.00	956
5.93	2.93	1.21	10.07	10.00	8.86	8.00	4.11	.....	4.11	4.00	1.08	.82	23.26	21.00	278
4.79	3.22	1.58	9.59	9.00	8.01	8.00	2.22	.....	2.22	2.00	1.86	1.65	23.89	21.00	899
4.07	3.36	1.56	*8.99	9.00	*7.43	8.00	1.31	.....	1.31	1.00	.94	.82	18.34	18.00	451
														17.00	898
														23.00	279
5.36	2.21	1.20	*8.77	9.00	*7.57	8.00	4.44	.....	4.44	4.00	1.70	1.65	24.96	22.00	210
														28.00	455
														22.50	290
5.36	2.85	1.35	*9.56	11.00	*8.21	9.00	2.17	.....	2.17	2.00	1.28	1.24	21.54	20.00	212
														25.00	572
3.12	2.86	1.60	7.58	7.00	*5.98	6.00	3.01	.....	3.01	2.00	2.17	1.65	24.88	20.00	454
														32.00	280
4.48	3.92	1.61	10.01	8.00	8.40	7.00	5.26	.....	5.26	5.00	4.16	4.12	37.56	35.00	209
														32.00	452
4.45	3.53	.91	*8.89	9.00	*7.98	8.00	2.28	.....	2.28	2.00	.53	.41	14.86	16.00	211
														16.50	449
5.43	2.84	1.36	*9.63	10.00	*8.27	9.00	3.18	.....	3.18	3.00	.96	.82	21.16	20.00	277
														21.00	289
														21.50	925
7.31	4.05	1.39	12.75	12.00	11.36	10.00	1.52	.....	*1.52	2.00	1.25	1.24	23.94	25.00	100
														20.00	1037
6.90	3.10	1.50	11.50	11.00	10.00	8.00	6.13	1.82	*7.95	9.00	1.68	1.65	31.53	29.00	97
														30.00	99
6.69	3.98	2.13	12.80	11.00	10.67	9.00	3.79	.....	3.79	4.00	*1.63	1.65	27.69	25.00	107
														26.50	1030
7.42	2.53	1.08	11.03	.....	*9.95	10.00	5.20	.....	5.20	5.00	1.30	1.00	26.44	27.00	385
4.18	4.30	1.78	10.26	.....	8.48	8.00	1.57	.....	1.57	1.00	1.02	1.00	19.93	22.00	168
5.52	1.54	.42	7.48	.....	7.06	6.00	2.69	.....	*2.69	3.00	*.99	1.07	19.28	22.00	953
4.49	2.61	3.42	10.52	.....	*7.10	8.00	3.09	.....	3.09	2.00	1.10	1.03	21.44	23.00	295
														24.00	297
4.81	1.65	.68	7.14	.....	6.46	6.00	9.72	.....	*9.72	10.00	*1.46	1.65	27.85	33.00	616
														28.00	1064
6.25	2.75	.31	9.31	.....	9.00	8.00	3.45	.....	3.45	3.00	*1.51	1.65	24.12	25.00	617
														25.00	1065
4.30	1.59	.52	6.41	.....	*5.89	6.00	2.92	.....	*2.92	3.00	.43	.21	15.79	15.00	1046
														25.00	683
														.....	757
1.85	3.90	4.16	*9.91	11.00	*5.75	9.00	2.53	.50	3.03	3.00	*1.54	1.65	22.23	28.00	83
														.....	769
														28.00	809
														28.00	161
1.54	3.98	4.75	*10.27	11.00	*5.52	9.00	1.97	.....	1.97	1.50	2.61	1.65	25.69	24.00	82
														22.00	684
														25.00	808
1.03	3.65	8.83	13.51	.....	4.68	4.50	1.07	1.09	2.16	1.50	*2.72	2.88	27.64	30.00	84
2.17	4.19	6.44	*12.80	14.00	*6.36	12.00	2.73	.....	*2.73	3.00	2.66	2.47	28.44	27.00	1175

*Constituent falls below guaranty

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	Pollock Fertilizer Co., Baltimore, Md.		
936	†Superior Corn and Tomato Fertilizer,	J. H. Leiter & Bro., Milnor,	9.49
911		Elias Gable, Red Lion,	
1011	†Ammoniated Bone Phosphate,	H. M. Owen & Bro., Lewistown,	10.79
910		Elias Gable, Red Lion,	
1055		H. M. Owen & Bro., Lewistown,	
	Quaker City Poudrette Co., Philadelphia, Pa.		
651	Warranted Pure Quaker City Poudrette,	Wm. C. Ball, Media,	9.61
	Rasin-Monumental Co., Baltimore, Md.		
456	†Rasin's I. X. L.,	J. C. Cryder, Willow Springs,	11.70
250		Levi Berkey, Somerset,	
588		H. R. Lutz, Denver,	
964	†Wm. Penn Crop Grower,	J. C. Cryder, Willow Springs,	11.73
656		S. C. Walker & Co., Chadsford Junc.,	
1077		F. W. Archey, Penn'a Furnace,	
469	Rasin's Empire Guano,	Elias S. Brubacher, Richland,	8.14
1189	†Rasins XXX Fertilizer,	D. S. Meyer, Bareville,	12.16
1205		M. C. Deitrick, Kempton,	
1191	Formula 44 Tobacco Fertilizer,	D. S. Meyer, Bareville,	10.62
1023	†Rasin's National Crop Compound,	C. K. Book, Port Royal,	9.22
783		Wm. Bowman, Lebanon,	
1190		D. S. Meyer, Bareville,	
782	†Wheat, Corn and Oats Mixture,	Wm. Bowman, Lebanon,	9.68
657		S. C. Walker & Co., Chadsford Junc.,	
1186		D. S. Meyer, Bareville,	
589	Special Fish and Potash Mixture,	H. R. Lutz, Denver,	7.02
1188	Rasin's General Tobacco Grower,	D. S. Meyer, Bareville,	10.68
	Reading Bone Fertilizer Co., Reading, Pa.		
1092	Schuylkill Valley Favorite,	J. H. Kuntz, Shellsville,	10.40
649	Reading Bone Special,	Wm. E. Richardson, Chalfont,	10.23
650	Farmer's Bone and Potash,	Wm. E. Richardson, Chalfont,	11.42
530		W. K. Heebner, West Point,	
788		John Engle, Hummelstown,	
	Schall-Sheldon Fertilizer Co., Erie, Pa.		
81	Corn and Potato,	I. W. Scott & Co., Pittsburg,	10.88
72	†Guano,	A. E. Day, Spartansburg,	11.17
80		I. W. Scott & Co., Pittsburg,	
695	Trucker's Manure,	I. W. Scott & Co., Pittsburg,	10.76
	Scientific Fertilizer Co., Pittsburg, Pa. Branch of the Buffalo Fertilizer Works, Buffalo, N. Y.		
281	†Scientific Potato Fertilizer,	H. L. Fike, Meyersdale,	11.06
96		A. J. Norris & Bro., Culmerville,	
686		Lee Lutes, Charleroi,	
605	Scientific Corn and Grain Fertilizer,	A. J. Norris & Bro., Culmerville,	10.08
566	Scientific Corn and Grain Fertilizer,	Ross R. Snyder, New Lexington,	11.43
282	Scientific Economy Fertilizer,	H. L. Fike, Meyersdale,	9.54
	Scott Fertilizer Co., Elkton, Md.		
336	Sure Growth Superphosphate,	D. R. Stein, Orwigsburg,	9.03
470	Sure Growth Compound,	Elias Brubacher, Richland,	7.94
1185	Corn and Oats Grower,	A. B. Groff, New Holland,	11.79
335	†Scott's Potato Grower,	D. R. Stein, Orwigsburg,	7.56
471		Elias Brubacher, Richland,	
164	†Potato and Truck Special,	B. W. Jones, Doe Run,	6.18
867		A. B. Groff, New Holland,	
	M. L. Shoemaker & Co., Philadelphia, Pa.		
735	†Swift Sure Superphosphate for Potatoes,	Mark Hildebeitel, Green Lane,	8.69
392		M. H. Matlack, West Chester,	
1117		W. G. Squires, Hop Bottom,	

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 10.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
4.79	3.37	1.53	9.69	.....	8.16	8.00	2.33	.....	2.33	2.00	.91	.82	19.94	18.00	936
														20.00	911
4.92	2.74	1.58	9.24	.....	*7.66	8.00	2.44	.....	2.44	2.00	1.75	1.65	23.37	20.00	1011
														22.00	910
														24.00	1055
.48	2.07	.56	3.11	.....	2.55	.....	.40	.....	.40	.....	1.39	.....	12.60	17.00	651
														19.50	456
6.73	2.51	.82	10.06	10.00	9.24	9.00	3.91	.....	3.91	3.00	1.13	.82	23.58	.....	250
														19.00	588
														17.50	964
5.47	4.60	1.19	11.26	9.00	10.07	8.00	1.88	.....	1.88	1.00	1.37	.82	23.23	18.00	656
														18.00	1077
6.39	2.69	.70	9.78	9.50	9.08	8.00	3.34	.....	3.34	2.00	1.83	1.65	25.88	20.00	469
6.35	2.69	1.86	10.90	9.50	9.04	8.00	4.59	.....	*4.59	5.00	1.73	1.65	27.43	23.75	1189
														25.00	1205
5.89	2.43	2.31	10.63	10.00	8.32	7.00	.40	3.19	3.59	3.20	3.05	2.55	32.02	30.00	1191
														20.50	1023
6.46	3.76	1.19	11.41	9.00	10.22	8.00	4.42	.....	4.42	1.00	1.15	.82	25.15	20.00	783
														20.50	1190
														16.00	782
5.17	2.95	2.67	10.79	9.00	8.12	8.00	2.65	.....	2.65	2.00	.68	.41	19.93	16.50	657
														17.00	1186
4.00	2.49	2.25	8.74	7.00	6.49	6.00	9.40	.....	9.40	3.00	2.94	1.65	34.89	32.00	589
7.29	2.41	2.79	12.49	9.00	9.70	8.00	3.20	.....	3.20	3.00	*1.39	1.65	25.41	22.25	1188
1.78	6.10	2.17	10.05	9.00	7.88	7.00	2.12	.....	2.12	2.00	.64	.41	18.27	19.00	1092
4.46	5.09	1.39	10.94	9.00	9.55	7.00	4.64	.....	*4.64	5.00	*1.52	1.65	26.18	29.00	649
														25.00	650
3.37	4.29	1.70	*9.36	10.00	*7.66	8.00	4.50	.....	4.50	4.00	.83	.82	21.34	20.00	530
														20.00	788
5.98	2.41	2.17	10.56	9.00	8.39	8.00	4.40	.....	4.40	4.00	1.90	1.65	27.14	28.00	81
5.92	2.62	.70	9.24	9.00	8.54	8.00	4.18	.....	4.18	4.00	1.12	.82	22.83	22.00	72
														24.00	80
6.01	1.53	1.10	*8.64	9.00	*7.54	8.00	5.18	.....	*5.18	6.00	*1.53	2.47	25.09	.....	695
														25.00	281
4.49	3.09	1.94	9.52	9.00	*7.58	8.00	5.53	.....	*5.53	6.00	*2.23	2.47	28.81	28.00	96
														28.00	686
3.52	4.39	4.17	12.08	9.00	*7.91	8.00	.80	2.26	3.06	2.00	*1.12	1.65	22.86	21.00	605
2.66	4.54	1.54	*8.74	9.00	*7.20	8.00	1.07	1.37	2.44	2.00	*.92	1.65	19.12	27.00	566
4.90	3.28	1.19	*9.37	10.00	*8.18	9.00	.53	4.11	4.64	4.00	1.97	1.65	27.54	22.00	282
8.26	1.30	2.08	*11.64	12.00	*9.56	10.00	3.47	.....	3.47	3.00	1.80	1.65	27.08	22.00	336
6.72	1.45	1.45	9.62	.....	8.17	7.00	8.44	.....	8.44	7.00	3.59	3.30	38.32	31.00	470
9.04	1.84	1.03	11.91	.....	10.88	8.00	2.72	.....	2.72	2.00	.53	.41	17.60	18.00	1185
3.97	3.07	2.91	9.95	.....	7.04	6.00	10.59	.....	10.59	10.00	1.84	1.65	32.07	27.00	335
														26.84	471
4.00	3.32	3.57	10.89	.....	7.32	7.00	5.77	.....	5.77	5.00	1.99	.....	28.39	25.00	164
														26.00	867
6.32	3.62	1.66	11.60	11.00	9.94	8.00	8.66	.....	8.66	7.00	3.00	2.88	37.65	33.00	735
														32.00	392
														.....	1117

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Samples Was Taken.	Moisture in 100 pounds.
8	†$23 Phosphate.	Hillis & Taggart, Norristown,	4.82
393		M. H. Matlack, West Chester,	
320	Swift Sure Superphosphate for General Use.	A. F. Spittler, Pine Grove,	9.56
9	Swift Sure,	Hillis & Taggart, Norristown,	9.54
1151	Swift Sure Special 10 per Cent. Potato Fertilizer No. 1.	Harvey M. Freed, Fort Washington,	8.78
12	Echo Superphosphate,	Hillis & Taggart, Norristown,	5.74
323	Swift Sure 10 per Cent. Fertilizer No. 1,	A. F. Spittler, Pine Grove,	9.53
	Chas. A. Sickler & Bro., Wilkes-Barre, Pa.		
971	†Empire Phosphate,	Ellis Eves & Bro., Millville,	6.32
1113		A. A. Stark, Nicholson,	
1107	Special Manure for Potatoes and Vegetables.	J. G. Leighton, Tunkhannock,	6.37
970	Vegetable and Vine Fertilizer,	Ellis Eves & Bro., Millville,	6.65
972	King Phosphate,	Ellis Eves & Bro., Millville,	6.06
1115	Graves Potato and Tobacco Manure,	M. McVicar, Hopbottom,	9.40
969	Peerless Phosphate,	Ellis Eves & Bro., Millville,	6.04
1104	King,	J. G. Pierson, Braintrim,	5.10
	H. H. Smyser, York, Pa.		
888	Chicago Ammoniated Bone and Tankage,	Henry Linebaugh, Roler,	9.53
	Southern Fertilizer Co., York, Pa.		
325	†Farmer's Choice Ox Brand,	A. F. Kimmel, Orwigsburg,	11.16
1181		D. C. Emery, Grove City,	
1180	Special Potato Grower,	D. C. Emery, Grove City,	10.40
324	Ox Brand Special Potato Grower,	A. F. Kimmel, Orwigsburg,	9.90
	Standard Guano Co., Baltimore, Md.		
980	Fish, Rock and Potash,	J. L. Johns & Sons, Millville,	9.89
	Swift & Co., Chicago, Ill.		
294	†Pure Superphosphate,	D. J. Davis, Ebensburg,	6.12
1166		R. G. Young's Sons, New Gallilee,	
1167	Pure Champion Wheat and Corn Grower,	R. G. Young's Sons, New Gallilee,	4.61
1168	Pure Onion Potato and Tobacco,	R. G. Young's Sons, New Gallilee,	6.07
1169	Pure Complete Fertilizer,	R. G. Young's Sons, New Gallilee,	6.36
	J. M. Templin, Honeybrook, Pa.		
388	No. 4 Atlas Brand,	J. M. Templin, Coatesville,	10.92
389	No. 8 H. G. Potash Manure,	J. M. Templin, Coatesville,	8.50
	I. P. Thomas & Sons Co., Philadelphia, Pa.		
314	†Improved Superphosphate,	C. H. Mayer, Cressona,	11.90
1097		J. G. Light, Jonestown,	
316		C. H. Moyer, Cressona,	
356		D. C. Gross, Monaca,	
224	†Potato Fertilizer,	A. E. Woodruff, Leraysville,	11.72
395		Griffith & Wallerton, Downingtown,	
548		H. Jarrett, Hatboro,	
463	Tip Top Raw Bone Superphosphate,	E. W. Rupp, Shiremanstown,	9.91
547	†Farmer's Choice Bone Phosphate,	H. Jarrett, Hatboro,	11.88
1164		L. L. H. Crail, Shippingport,	
537	†Champion Bone Phosphate,	A. S. Tyson, Lansdale,	12.07
662		Oliver B. Nase, Perkasie,	
464		E. W. Rupp, Shiremanstown,	
226	†Wheat and Corn Fertilizer,	R. E. Woodruff, Leraysville,	10.68
539		A. S. Tyson, Lansdale,	
240	†Special Potato Manure,	S. O. Jones, Athens,	8.38
661		Oliver B. Nase, Perkasie,	
315	Normal Phosphate,	C. H. Moyer, Cressona,	11.71
318	Top Dressing for Grass,	C. H. Moyer, Cressona,	6.97
340	Potato Manure,	Frank Shaffer, Fleetwood,	10.53
536	Superior,	A. S. Tyson, Lansdale,	6.06

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
2.96	5.78	2.17	10.91	8.00	8.74	6.00	2.31	.....	2.31	1.00	1.45	.82	22.99	23.00	8
														23.00	393
6.40	2.88	4.90	14.18	14.00	9.28	9.00	5.36	.....	5.36	4.50	3.15	2.88	35.90	32.00	320
5.64	2.90	4.77	13.31	.....	8.54	.....	6.16	.....	6.16	.....	3.08	.....	35.61	31.00	9
4.83	2.77	2.29	9.89	.....	7.60	6.00	11.00	.....	11.00	10.00	*2.75	3.30	36.82	.....	1151
3.57	4.52	3.87	11.96	9.00	8.09	7.00	2.54	.....	2.54	1.50	1.64	1.24	24.39	24.00	12
4.47	2.89	2.52	9.88	.....	7.36	6.00	10.09	.....	10.09	10.00	*3.02	3.30	36.87	33.00	323
2.68	2.19	2.49	*7.36	9.00	*4.87	8.00	1.85	.....	*1.85	2.00	*1.01	1.65	16.90	21.00	971
														20.00	1113
1.96	2.78	3.34	8.08	8.00	*4.74	7.00	4.84	.....	*4.84	7.00	*1.31	2.47	21.52	30.00	1107
2.54	2.33	3.01	7.88	.....	*4.87	8.00	4.74	.....	*4.74	10.00	*.84	1.65	19.48	29.00	970
1.87	3.26	1.40	6.53	.....	*5.13	8.00	2.43	.....	2.43	2.00	*.46	.82	14.74	17.00	972
1.45	3.72	2.54	7.71	.....	*5.17	6.00	4.65	.....	*4.65	5.00	1.25	1.24	21.04	28.00	1115
3.06	2.16	1.73	6.95	.....	*5.22	6.00	2.15	.....	2.15	1.00	.65	.41	15.69	14.00	969
1.05	3.43	1.08	5.56	.....	*4.48	8.00	2.25	.....	2.25	2.00	*.67	.82	14.54	20.00	1104
3.80	4.69	1.71	10.20	.....	8.49	8.00	2.20	.....	2.20	2.00	*.95	1.00	20.30	18.00	888
5.95	3.26	1.32	10.53	.....	9.21	9.00	2.22	.....	2.22	2.00	.90	.82	20.84	20.00	325
														23.00	1181
4.16	3.76	1.21	9.13	.....	*7.92	8.00	3.59	.....	*3.59	4.00	1.28	1.24	22.56	27.00	1180
4.73	3.42	1.66	9.81	.....	8.15	8.00	4.24	.....	4.24	4.00	1.37	1.24	23.92	23.00	324
1.61	4.59	.19	*6.39	7.00	6.20	6.00	1.12	.....	1.12	1.00	.54	.41	14.22	13.00	980
4.74	4.17	2.57	*11.48	12.00	8.91	8.00	2.20	.....	2.20	2.00	1.76	1.65	24.81	22.00	294
														22.00	1166
1.17	7.67	4.41	*13.25	14.00	*8.84	12.00	2.10	.....	2.10	2.00	1.70	1.65	24.85	26.00	1167
5.29	2.12	2.15	*9.56	11.00	*7.41	8.00	2.53	4.27	*6.73	7.00	1.82	1.65	28.81	27.00	1168
5.23	2.95	3.08	11.26	11.00	8.18	8.00	1.67	.74	1.81	1.00	1.25	1.03	21.90	19.00	1169
4.74	4.32	3.06	12.12	11.00	*9.06	10.00	2.80	1.29	4.09	4.00	*1.53	1.65	26.43	26.00	388
8.36	2.94	1.32	12.62	12.00	11.30	11.00	.67	7.05	*7.72	8.00	.85	.82	29.78	27.00	389
6.12	4.27	.70	11.09	11.00	10.39	10.00	1.56	.....	1.56	1.00	1.22	.82	22.38	20.00	314
														19.00	1097
														28.00	316
														27.00	356
7.65	1.54	.82	10.01	10.00	9.19	9.00	6.56	.....	6.56	6.00	1.65	1.65	28.56	30.00	224
														29.00	395
														28.00	548
5.15	3.48	2.45	11.08	9.00	8.63	8.00	3.75	.....	*3.75	4.00	2.65	2.47	30.10	30.00	463
5.65	4.37	.79	10.81	10.50	10.02	9.50	2.40	.65	3.05	2.00	1.98	1.65	27.18	28.00	547
														28.20	1164
8.25	2.03	.68	*10.96	11.00	10.28	10.00	4.37	.....	4.37	4.00	1.75	1.65	27.81	26.00	537
														23.00	662
														20.00	464
4.27	5.32	1.30	10.89	10.00	9.59	9.00	3.31	.....	3.31	3.00	1.05	.82	22.80	22.00	226
														21.00	539
4.91	2.75	.93	8.59	8.00	7.66	7.00	10.21	.....	10.21	10.00	1.87	1.65	31.41	34.00	240
														28.50	661
6.32	3.23	.84	10.39	9.50	9.55	8.50	1.85	.....	1.85	1.50	*.94	1.03	20.84	23.00	315
2.51	1.17	.13	3.81	.....	3.68	.....	1.33	4.55	5.88	5.00	*7.58	9.06	48.86	50.00	318
6.29	2.12	1.69	10.10	10.00	*8.41	9.00	6.93	.....	6.93	6.00	2.54	1.65	32.46	30.00	340
2.70	4.77	3.25	10.72	8.00	7.47	7.00	1.07	.87	1.94	1.60	1.20	.82	20.91	19.00	536

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Samples Was Taken.	Moisture in 100 pounds.
538	Tip Top Raw Bone Superphosphate, ...	A. S. Tyson, Lansdale, ...	13.25
239	Tip Top Raw Bone for Tobacco, ...	S. O. Jones, Athens, ...	6.76
	James Thomas, Williamsport, Pa.		
381	†Klondyke Brand, ...	T. S. Green, Canton, ...	13.01
1217		Barker Bros., Ebensburg, ...	
1057		L. M. Watt, Belleville, ...	
35	†Standard Bone Phosphate, ...	McCalmont & Co., Bellefonte, ...	9.00
1218		Barker, Bros., Ebensburg, ...	
36	†Potato and Truck Manure, ...	McCalmont & Co., Bellefonte, ...	11.33
1219		Barker Bros., Ebensburg, ...	
382	Potato and Truck Manure, ...	T. S. Green, Canton, ...	10.58
383	Special Compound for Wheat, Oats and Corn.	F. E. Shoemaker, Cawley, ...	10.65
	Trenton Bone Fertilizer Co., Trenton, N. J.		
670	Trenton Corn Mixture, ...	L. A. Howells, Morrisville, ...	4.92
668	Trenton Corn and Truck Fertilizer, ...	L. A. Howells, Morrisville, ...	4.35
666	Trenton No. 32 Potato Manure, ...	L. A. Howells, Morrisville, ...	7.47
667	Trenton Potato Manure, ...	L. A. Howells, Morrisville, ...	7.70
669	Trenton Special Corn Manure, ...	L. A. Howells, Morrisville, ...	5.95
671	Trenton Tomato and Truck Fertilizer, ...	L. A. Howells, Morrisville, ...	4.13
	F. W. Tunnell & Co., Philadelphia, Pa.		
742	Resieved Phosphate, ...	W. M. Gehmen, Macungie, ...	9.00
143	†Sweet and White Potato Manure, ...	Wilson & Mendenhall, Toughkenamon,	11.89
865		Eli M. Martin, New Holland, ...	
145		Wilson & Mendenhall, Toughkenamon,	
169		Joseph Emerick, Pine Grove, ...	
22	†Potato and Grain Manure, ...	W. H. Gustock Sons, Collegeville, ..	8.63
337		Jas. S. Heffner & Son, Kutztown, ..	
534		L. W. Mattern, West Point, ...	
533		L. W. Mattern, West Point, ...	
146	†Royal Fish Guano, ...	Wilson & Mendenhall, Toughkenamon,	12.09
541		Jones & Paxson, Hatboro, ...	
535		L. W. Mattern, West Point, ...	
391	†Complete Superphosphate, ...	M. H. Matlack, West Chester, ...	9.19
866		Eli M. Martin, New Holland, ...	
390		M. H. Matlack, West Chester, ...	
170	†Special H. G. Potato Manure, ...	Joseph Emerick, Pine Grove, ...	10.97
540		Jones & Paxson, Hatboro, ...	
1	Complete superphosphate, ...	W. H. Gristock Sons, Collegeville, ..	14.20
	J. E. Tygert, Philadelphia, Pa.		
1201	Popular Phosphate, ...	M. C. Deitrick, Kempton, ...	10.28
1125	Ammoniated Superphosphate, ...	J. S. Dimon, Fairdale, ...	14.47
1122	Early Truck Guano, ...	J. S. Dimon, Fairdale, ...	15.22
1150	Potato Guano, ...	Jacob Campbell, Fort Washington, ..	10.50
1121	†Gold Edge Potato, ...	J. S. Dimon, Fairdale, ...	10.86
1200		M. C. Deitrick, Kempton, ...	
1202	Victor Bone and Potash, ...	M. C. Deitrick, Kempton, ...	9.60
	Jacob Ulmer, Pottsville, Pa.		
526	Blood, Bone and Meat Superphosphate, ...	Benjamin Haas, Valley View, ...	7.47
	Virginia Carolina Chemical Co., Richmond, Va.		
915	Special Compound for Wheat, ...	Wm. Overdorff, Windsorville, ...	11.08
879	Standard Crop Grower, ...	J. C. Birely, New Oxford, ...	11.01
1073	Fish Bone and Potash, ...	George C. Grazier, Huntington Fur.,	10.00
	J. C. Walker & Son, Gap.		
1199	Pride of Pequa Phosphate, ...	Frank L. Musselman, Strassburg, ..	10.67
1198	Pride of Pequa H. G. Phosphate, ...	Frank L. Musselman, Strassburg, ..	10.00
	F. K. Walt Co., Supplee, Pa.		
341		Jno. W. Rentschler, Hamburg, ...	
177	†Valld Bone Phosphate, ...	A. J. Hummell, Pine Grove, ...	8.97
1099		E. S. Spangler, Jonestown, ...	
780	Calcined Bone Superphosphate, ...	John L. Nissley, Middletown, ...	8.52

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
7.02	2.34	.62	9.98	9.00	9.36	8.00	3.83	.....	*3.83	4.00	*2.07	2.47	27.60	31.00	538
5.14	2.72	1.54	9.40	.....	7.86	.....	2.13	4.19	6.32	.....	2.56	.....	31.82	37.00	239
5.23	4.65	1.68	*11.56	13.00	9.88	9.00	2.24	.....	*2.24	3.00	1.14	.82	22.74	21.00	381
														23.00	1217
														20.00	1057
4.83	5.17	1.22	11.22	11.00	10.00	8.00	1.26	.....	1.26	1.00	.98	.82	20.88	21.00	35
														20.00	1218
4.86	3.83	3.20	*11.89	12.00	8.69	8.00	5.27	.....	5.27	5.00	*1.51	1.65	26.89	29.00	36
														32.00	1219
3.72	4.54	4.10	12.36	12.00	8.26	8.00	5.76	.....	5.76	5.00	1.94	1.65	29.26	28.00	382
5.83	4.08	1.65	11.56	.....	9.91	9.00	2.31	.....	2.31	2.00	*1.05	1.24	22.42	24.00	383
2.09	5.91	3.11	11.11	.....	8.00	7.00	3.39	.....	3.39	3.00	1.84	1.65	25.51	26.00	670
.89	8.41	7.53	16.83	.....	*9.30	10.00	5.43	.....	5.43	5.00	3.19	2.47	36.82	33.00	668
4.36	3.04	3.01	10.41	.....	*7.40	8.00	10.61	.....	10.61	10.00	*2.46	2.47	35.17	30.00	666
3.56	3.24	3.79	10.59	.....	*6.80	8.00	7.45	.....	7.45	7.00	1.89	1.65	29.22	25.00	667
3.19	3.68	2.68	9.55	.....	*6.87	8.00	3.47	.....	3.47	3.00	1.75	1.65	23.97	21.00	669
2.26	4.33	5.53	12.12	.....	*6.59	8.00	5.64	.....	5.64	5.00	1.88	1.65	27.85	23.00	671
1.28	7.12	.89	9.29	9.00	8.40	8.00	2.95	.....	2.95	1.00	.43	.41	14.94	18.00	742
2.50	5.06	1.52	9.08	8.00	7.56	7.00	7.12	.....	*7.12	8.00	2.08	2.06	29.26	30.00	143
														30.00	865
														26.00	145
														25.00	169
3.02	5.12	1.77	9.91	9.00	8.14	8.00	4.79	.....	4.79	4.00	1.65	1.65	25.66	28.00	2
														23.00	337
														27.00	534
														26.00	533
3.00	4.27	1.49	8.76	9.00	7.27	7.00	6.19	.....	6.19	3.00	2.67	2.06	30.54	26.00	146
														28.00	541
														23.00	535
1.13	7.31	1.70	10.14	10.00	*8.44	9.00	2.01	.....	2.01	1.75	.97	.82	19.74	22.00	391
														22.00	866
														32.00	390
5.67	2.43	.80	*8.90	9.00	8.10	8.00	9.66	.....	*9.66	10.00	2.87	2.47	35.74	32.00	170
														33.00	540
.77	5.53	1.32	*7.62	10.00	*6.30	9.00	2.34	.....	2.34	1.75	.95	.82	17.79	24.00	1
3.10	4.55	1.53	9.18	8.00	7.65	7.00	1.76	.....	1.76	1.00	.91	.82	18.64	18.00	1201
3.68	4.19	1.39	9.26	9.00	*7.87	8.00	5.74	.....	5.74	1.50	1.75	1.24	27.04	20.00	1125
4.48	2.01	1.77	8.26	7.00	6.49	6.00	2.85	.....	2.85	2.00	*2.97	3.30	28.03	28.00	1122
3.97	3.20	1.07	8.24	8.00	7.17	7.00	3.70	.....	*3.70	7.00	*1.02	2.06	20.52	.....	1150
4.01	3.32	1.38	8.71	8.00	7.33	7.00	5.36	.....	5.36	5.00	1.82	1.65	26.01	25.00	1121
														25.00	1200
4.13	4.06	1.17	9.36	9.00	8.19	8.00	4.57	.....	4.57	4.00	.88	.82	21.97	20.00	1202
7.05	.33	2.76	*10.14	12.00	*7.38	9.50	.....	2.12	*2.12	2.50	3.46	2.88	31.52	29.00	526
6.39	3.61	1.45	11.45	9.00	10.00	8.00	1.94	.....	1.94	1.00	1.38	.82	23.67	19.00	915
5.47	3.55	.67	9.69	9.50	9.02	8.00	3.72	.....	3.72	2.00	2.25	1.65	27.84	20.00	879
7.07	2.06	3.05	12.18	9.00	9.13	8.00	4.21	.....	4.21	3.00	*1.52	1.65	26.44	22.40	1073
7.74	2.39	.71	10.84	.....	10.13	10.00	3.24	.....	3.24	3.00	2.55	2.47	30.06	23.00	1199
6.70	2.01	.74	9.45	.....	8.71	7.00	5.95	.....	*5.95	8.00	2.50	2.47	31.09	28.00	1198
2.58	4.33	4.13	11.04	.....	*6.91	8.00	4.24	.....	4.24	4.00	*.56	.82	17.14	.....	341
														18.00	177
														18.00	1099
2.23	4.96	4.03	11.22	.....	*7.19	8.00	2.59	.....	2.59	2.00	*.89	1.65	20.16	22.00	780

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Samples Was Taken.	Moisture in 100 pounds.
779	†Ammoniated Bone Phosphate,	John L. Nissley, Middletown,	7.29
1095		E. S. Spangler, Jonestown,	
178	†H. G. Potato and Truck Manure,	A. J. Hummell, Pine Grove,	8.82
1098		E. S. Spangler, Jonestown,	
1096*	Special H. G. Clover and Potash Manure,	E. S. Spangler, Jonestown,	8.34
	W. E. Whann, William Penn, Pa.		
1019	Chester Valley Special Potato and Truck,	Francis Hower, Mifflin,	10.93
1193	Chester Valley Special Ammoniated Superphosphate.	Wm. Whann, Bareville,	8.76
1149	†Chester Valley Fish and Potash Fertilizer.	George Shaffer, Fort Washington,	10.77
1192		Wm. E. Whann, Bareville,	
1018	Chester Valley No. 2 Ammoniated Phosphate.	Francis Hower, Mifflin,	11.43
	John Whann & Sons, Philadelphia, Pa.		
675	Reliable Ammoniated Superphosphate,	John Whann & Son, Nottingham,	11.18
121	Imperial Potato Manure,	John Whann & Son, Kelton,	9.73
674	Special Truck Guano,	John Whann & Son, Nottingham,	10.05
1013	Special Mixture,	N. M. Ashcroft, McVaytown,	10.73
	A. J. Wilson, Mont Clare, Pa.		
550	For General Use,	A. J. Wilson, Mont Clare,	8.14
	R. A. Woolridge, Baltimore, Md.		
906	†Triumph Pure Bone Phosphate,	G. B. Murphy, Keys,	8.68
122		Frank Evans, Kelton,	
1022		T. K. Blover, Port Royal,	
912	Special Potato Fertilizer for Irish Potatoes,	C. A. Rost, Led Lion,	11.83
	York Chemical Works, York, Pa.		
108	†Dempwolf's Standard Fertilizer,	Casper Hosfeld, Shippensburg,	11.57
101		G. W. Reed, Paris,	
503		L. T. Lebo, Halifax,	
1007	†Dempwolf's Half and Half Fertilizer,	Laurelton Store Co., Laurelton,	9.56
203		P. C. Smith, East Berlin,	
1195		A. C. Shaffer, Bareville,	
997	†Special Tobacco Fertilizer,	A. T. Baird, Island,	5.75
1194	Potato and Truck Special,	A. C. Shaffer, Bareville,	5.79
103		G. W. Reed, Paris,	
995	†Dempwolf's Standard Potash Fertilizer,	A. T. Baird, Island,	9.31
504		L. T. Lebo, Halifax,	
1010		A. W. Nale, Milroy,	
773	Harvest Queen,	M. D. Ebersole, Middletown,	8.01
213	†Dempwolf's Potato Manure,	D. M. Frey & Sheffer, Hanover,	10.27
774		M. D. Ebersole, Middletown,	
102		G. W. Reed, Paris,	
853		Wm. J. Hess, Quarryville,	
885		Lewis Lean, Franklintown,	
936	Ammoniated Raw Bone,	A. T. Baird, Island,	11.28

†Composite sample.

LIZERS—Continued.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.			
2.45	5.57	4.19	12.21	.....	8.02	8.00	1.74	.....	1.74	1.00	*.37	.82	14.36	16.00	779
														16.00	1095
2.71	4.65	4.15	11.51	.....	7.36	6.00	7.79	.....	*7.79	10.00	*2.11	3.30	31.05	28.00	178
														31.00	1098
2.27	4.92	4.19	11.38	.....	7.19	.....	4.58	.....	4.58	.....	1.04	.....	22.96	24.00	1096
4.77	4.49	.94	10.20	8.50	9.26	7.00	7.18	.....	718	7.00	2.50	2.47	32.76	26.50	1019
4.34	3.16	.78	8.28	.....	7.50	7.50	2.91	.....	2.91	2.00	.91	.82	19.47	20.00	1193
4.49	3.27	.65	8.41	.....	*7.76	8.00	5.02	.....	5.02	5.00	1.55	1.48	24.68	.....	1149
														26.00	1192
5.30	3.15	.47	8.92	8.00	8.45	7.00	3.00	.....	3.00	3.00	*1.23	1.25	21.98	20.50	1018
3.61	4.14	1.39	9.14	.....	*7.75	8.00	2.51	.....	2.51	2.00	1.81	1.65	23.49	23.00	675
4.44	2.88	1.61	8.93	.....	7.32	7.00	5.97	.....	*5.97	6.00	2.51	2.47	29.94	30.00	121
3.84	3.30	1.60	8.74	.....	7.14	7.00	6.52	.....	6.52	6.00	1.49	1.44	25.80	26.00	674
5.22	3.12	1.60	9.94	.....	8.34	8.00	4.88	.....	*4.88	5.00	*.77	.82	22.16	.....	1013
.33	2.48	2.91	5.72	.....	2.81	.....	.....	.63	.63	.....	7.14	.....	41.06	30.00	550
														20.50	906
4.21	3.20	1.56	*8.97	10.00	*7.41	8.00	4.19	.....	4.19	4.00	1.41	1.24	23.25	24.00	122
														.....	1022
4.77	2.89	1.91	*9.57	10.50	*7.66	9.00	5.66	.....	5.66	5.00	1.90	1.65	27.43	24.00	912
														22.50	108
3.02	4.15	.56	*7.73	10.00	*7.17	8.00	5.02	.....	5.02	5.00	*.90	1.65	21.04	22.00	101
														24.00	503
														17.50	1007
1.38	6.15	.27	*7.80	8.00	7.53	7.00	1.24	.....	1.24	1.00	.82	.82	16.76	15.50	203
														17.00	1195
4.88	2.87	.23	*7.98	8.00	7.75	7.00	1.87	7.24	*9.11	10.00	3.45	3.30	38.46	35.00	997
														34.00	1194
4.92	3.41	.52	*8.85	9.00	8.33	8.00	1.87	5.72	7.59	7.00	2.50	2.47	33.14	30.00	103
														32.00	995
4.11	3.97	.42	*8.50	9.00	8.08	8.00	4.84	.....	4.84	4.00	.93	.82	22.03	21.00	504
														21.50	1010
3.16	4.16	.36	*7.68	9.00	*7.32	8.00	1.95	.....	*1.95	2.00	*.44	.82	13.33	18.00	773
														24.00	213
														22.00	774
3.49	2.84	.19	*6.52	7.00	6.33	6.00	7.38	.....	7.38	7.00	*.67	.82	21.43	22.50	102
														24.00	853
														24.00	885
5.93	4.18	.26	*10.37	12.00	10.11	10.00	2.93	1.24	4.17	4.00	1.65	1.65	26.73	28.00	996

*Constituent falls below guaranty.

ROCK AND POTASH

Furnishing Phosphoric

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	American Agricultural Chemical Co., New York.	
237	†Big Crop Phosphate,	F. E. Van Ness, Wysox,
264		Jeff Altfather, Berlin,
31		J. H. & S. E. Weber, Oak Hall,
271		J. M. Wright, Elklick,
424		F. W. Lindner, Milton,
245	†H. G. Dissolved Bone and Potash,	Oscas Coleman, Lull,
555		D. A. Barrone, Trent,
396	†H. G. Bone and Potash,	Griffith & Wollerton, Downingtown,
231		Ralph Beardsley, Warrenham,
484		John Shoener, McKeansburg,
528	High Grade Potash Mixture,	J. H. Schrope, Hegins,
	Bradley Branch, New York.	
272	†Bradley's Alkaline Bone with Potash,	J. M. Wright, Elklick,
254		Jos. Rhoades, Somerset,
717		Wm. Hart, Elkland,
	Canton Chemical Branch, Baltimore, Md.	
286	†Canton Chemical Soluble Bone and Potash,	J. D. Miller, Rockwood,
181		Lewis Heffner, DeTurksville,
575		W. E. Moore, Fairchance,
180	Soluble Alkaline Bone,	Lewis Heffner, DeTurksville,
	Crocker Branch, Buffalo, N. Y.	
229	Soluble Bone and Potash,	Jno. A. Williams, Neath,
	Detrick Branch, Baltimore, Md.	
252	Detrick's Soluble Bone Phosphate and Potash.	Levi Berkey, Somerset,
	Great Eastern Branch, Rutland, Vt.	
342	†G. E. Soluble Bone and Potash,	H. Wanner, Shoemakersville,
1250		Jos. Miller, Geiger,
	Maryland Branch, Baltimore, Md.	
942	Maryland Bone Superphosphate,	Smith & McKelvey, Blairsville,
	Milsom Branch, East Buffalo, N. Y.	
384	†Dissolved Bone and Potash,	Willard Arnold, Granville,
821		Harry Dewey, Blooming Valley,
	Packer's Union Branch, Rutland, Vt.	
556	†Packer's Union Banner Wheat Grower,	D. A. Barrone, Trent,
40		Frank H. Wyan, Bellefonte,
990		J. M. U. Ulrich, Halls,
	Quinnipiac Branch, New York, N. Y.	
747	Quinnipiac Dissolved Bone and Potash,	J. H. Geisler, Trexlertown,
	Read Branch, New York.	
704	Read's 10 and 8,	E. J. Billings, New Albany,
218	High Grade Special,	Lott Shoemaker, Windham,
	Reese Branch, Baltimore, Md.	
172	Reese's Wheat Special,	Harry Keefer, Pine Grove,
347	†Reese's H. G. Potash Mixture,	Jas. C. Berger, Shartlesville,
1087		A. G. Houtz, Truckville,
1131	Reese's Crown Phosphate and Potash,	Frank C. Williams, Easton,
	Sharpless & Carpenter Branch, Philadelphia.	
487	Soluble Bone and Potash.	Jonas Kunkle, McKeansburg,

†Composite sample.

FERTILIZERS.

Acid and Potash.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
9.62	4.19	4.39	.98	9.56	9.00	8.58	8.00	4.97	.....	*4.97	5.00	15.46	17.60	237
													.....	264
													17.00	31
													16.50	271
													15.00	424
9.60	9.47	2.67	.59	*12.73	13.00	12.14	12.00	5.03	.....	5.03	5.00	18.20	18.00	245
													16.50	555
													19.00	396
10.25	9.34	3.22	1.12	13.68	13.00	12.56	12.00	4.76	.....	*4.76	5.00	18.33	18.00	231
													15.00	484
10.29	8.25	2.59	.63	11.47	11.00	10.84	10.00	9.15	.....	*9.15	10.00	21.45	22.00	528
11.58	6.21	4.04	.97	11.22	11.00	10.25	10.00	2.11	.....	2.11	2.00	13.80	15.00	272
													15.00	254
													14.00	717
12.05	5.20	4.90	1.31	11.41	11.00	10.10	10.00	2.32	.....	2.32	2.00	13.91	15.00	286
													14.00	181
													15.00	575
10.75	5.86	4.15	.94	*10.95	*13.00	10.01	12.00	4.14	.....	4.14	3.00	15.69	16.00	180
12.18	7.79	2.24	1.89	11.92	11.00	10.03	10.00	2.65	.....	2.65	2.00	14.74	17.00	229
9.97	7.56	3.32	.41	11.29	11.00	10.88	10.00	2.13	.....	2.13	2.00	14.19	.....	252
11.16	6.13	3.65	1.40	11.18	11.00	*9.78	10.00	2.20	.....	2.20	2.00	13.77	15.00	342
													.....	1250
11.28	3.87	6.17	1.58	11.62	11.00	10.04	10.00	2.14	.....	2.14	2.00	13.64	16.00	942
10.97	5.01	5.69	1.22	11.92	11.00	10.70	10.00	2.11	.....	2.11	2.00	14.00	14.25	384
													18.00	821
12.21	6.27	4.17	.56	11.00	11.00	10.44	10.00	2.20	.....	2.20	2.00	13.88	15.25	556
													14.50	40
													13.50	990
12.06	4.76	4.04	1.05	*9.85	11.00	*8.80	10.00	2.25	.....	2.25	2.00	12.93	15.00	747
9.61	6.92	3.78	1.35	12.05	.....	10.70	.....	7.60	.....	7.60	.....	19.89	22.00	704
12.06	9.90	2.55	1.16	13.61	13.00	12.45	12.00	5.09	.....	5.09	5.00	18.69	19.00	218
9.34	2.08	7.81	1.83	11.72	11.00	*9.89	10.00	2.13	.....	2.13	2.00	13.44	14.00	172
11.48	8.30	3.74	.97	13.01	13.00	12.04	12.00	4.75	.....	*4.75	5.00	17.83	18.00	347
													18.00	1087
10.88	9.05	2.73	2.58	14.36	12.00	11.78	11.00	2.14	.....	2.14	2.00	15.69	15.00	1131
11.14	4.55	4.88	1.47	*10.90	11.00	*9.43	10.00	2.09	.....	2.09	2.00	13.29	15.00	4.87

*Constituent falls below guaranty.

Sample number	Manufacturer and Brand.	From Whom Sample Was Taken.
	Susquehanna Branch, Baltimore, Md.	
127	†Susquehanna Alkaline Bone Phosphate,	H. P. Passmore, Kelton,
194		James Jacobs, York Springs,
257	†Susquehanna H. G. Bone and Potash,	A. A. Miller, Lavansville,
195		James Jacobs, York Springs,
419	†Susquehanna Grain and Grass Producer,	A. C. Sliper, Lewisburg,
259		U. D. Broucker, Somerset,
1001		J. N. Getz, Lock Haven,
	Tygert-Allen Branch, Philadelphia, Pa.	
568	Allen's Alkaline Bone Phosphate,	J. C. McMillen, Rockwood,
	M. E. Wheeler & Co., Branch, Rutland, Vt.	
766	†Wheeler's Wheat and Clover Fertilizer,	J. D. Eicher, Mill Run,
563		J. Snyder, Rockwood,
1124		H. Chaffee, Pike,
562	Wheeler's Clover Fertilizer,	J. Snyder, Rockwood,
	Williams & Clark Branch, New York.	
422	†W. and C's Dissolved Bone and Potash,	F. W. Lindner, Milton,
25		G. E. Corl, State College,
753		McCormick & Stevenson, New Salem,
192	Zell's Electric Phosphate,	John Reed, Friedensburg,
	Zell's Guano Branch.	
	Armour Fertilizer Works, Chicago, Ill.	
109	Phosphate and Potash No. 1,	George H. Stewart, Shippensburg,
248	†Phosphate and Potash No. 2,	Beerets & Sons, Somerset,
110		George H. Stewart, Shippensburg,
514		John Sheetz, Elizabethville,
642		Frank Douglass, Indiana,
	Baltimore Fertilizer Co., Baltimore, Md.	
206	Honest Bone and Potash,	Wm. F. Emlet, Abbottstown,
	Baugh & Sons Co., Philadelphia.	
131	†Soluble Alkaline Superphosphate,	Pennoch & Brosius, Avondale,
119		Allison & Fogelsonger, Shippensburg,
446		Boetlinger & Dietz, Danville,
721	12 and 5 Phosphate and Potash,	W. C. Graifley, Dushore,
	Berger Bros., Easton, Pa.	
1137	Peerless Phosphate,	J. S. Osterstock & Co., Easton,
	A. D. Birely & Sons, Ladiesburg, Md.	
878	Crop Producer,	J. C. Birely, New Oxford,
877	H. G. Bone and Potash,	J. C. Birely, New Oxford,
	Bowker Fertilizer Co., Boston, Mass.	
232	†Superphosphate,	P. L. Touhy, Warrenham,
522		S. G. Carl, Fearnot,
839	Empire State,	Osro Wykoff, Saegerstown,
1173	Superphosphate and Potash for Grass and Grain.	B. F. McClure & Bro., Burgettstown,
234	†Empire State Bone and Potash,	P. H. Taylor, Rome,
814		Bennett Hardware Co., Emlenton,
838	Golden Harvest,	Osro Wykoff, Saegerstown,
	S. B. Brodbeck, Brodbeck, Pa.	
215	Alkaline Phosphate,	D. M. Frey & Sheffer, Hanover,

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
10.23	7.32	2.66	.70	*10.68	11.00	*9.98	10.00	2.15	.....	2.15	2.00	13.74	13.50	127
													14.00	194
													.....	257
10.83	9.83	2.54	.29	*12.66	13.00	12.37	12.00	5.03	.....	5.03	5.00	18.25	18.50	195
													16.25	419
10.85	9.29	2.60	.54	*12.43	13.00	*11.89	12.00	3.78	.....	3.78	3.00	16.74	.....	259
													18.00	1001
9.95	7.10	2.60	1.24	*10.94	11.00	*9.70	10.00	2.27	.....	2.27	2.00	13.82	15.00	568
													17.00	766
9.86	7.28	3.17	1.59	12.04	11.00	10.45	10.00	2.28	.....	2.28	2.00	14.48	15.00	563
													17.00	1124
15.83	6.09	2.97	.54	9.60	.....	9.06	.....	1.88	.....	1.88	.....	12.72	15.00	562
11.03	6.06	4.53	.60	11.19	11.00	10.59	10.00	1.90	.....	*1.90	2.00	13.65	14.00	422
													14.00	25
													14.00	753
11 23	4.88	5.16	1.24	11.28	11.00	10.04	10.00	1.96	.....	*1.96	2.00	13.47	13.50	192
9.47	7.88	2.63	.54	*11.05	12.00	10.51	10.00	2.30	.....	2.30	2.00	14.20	14.50	109
													16.50	248
8.65	6.48	1.73	.73	*8.94	10.00	8.21	8.00	5.02	.....	5.02	5.00	15.49	15.50	110
													16.00	514
													20.00	642
13.81	5.58	4.99	1.07	11.64	.....	10.57	10.00	2.39	.....	2.39	2.00	14.26	14.00	206
13.05	4.27	5.93	1.38	11.58	.....	10.20	10.00	2.11	.....	2.11	2.00	13.69	14.00	131
													13.50	119
													14.00	446
10.66	6.17	3.88	.74	10.79	.....	*10.05	12.00	5.57	.....	5.57	5.00	17.11	17.00	721
9.14	4.91	3.16	1.45	9.52	9.00	8.07	8.00	4.49	.....	*4.49	5.00	14.95	20.00	11.37
11.79	6.92	3.40	1.05	11.37	.....	10.32	.....	2.64	.....	2.64	.....	14.49	13.00	878
11.55	3.89	5.98	1.04	10.91	.....	9.87	.....	5.77	.....	5.77	.....	17.03	15.00	877
10.26	6.88	3.31	1.48	11.67	11.00	10.19	10.00	1.82	.....	1.82	1.00	13.71	15.00	232
													.....	522
10.97	4.61	3.94	1.02	9.57	9.00	8.55	8.00	3.25	.....	3.25	3.00	13.76	18.00	839
12.32	7.75	3.25	.60	11.60	11.00	11.00	10.00	2.11	.....	2.11	1.00	14.30	21.00	1173
9.43	7.04	1.19	1.33	9.56	9.00	8.23	8.00	3.27	.....	3.27	3.00	13.98	18.00	234
													20.00	814
15.55	7.69	4.78	1.04	13.51	13.00	12.47	12.00	4.86	.....	*4.86	5.00	18.13	20.00	838
11.23	7.52	3.01	.56	11.09	.....	10.53	.....	2.28	.....	2.28	.....	14.19	14.00	215

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	Buffalo Fertilizer Co., Buffalo, N. Y.	
685	†Extra Bone and Potash,	J. B. Wilson, Monaca,
222		Orwell Club, Orwell,
1127		Dr. H. A. Glover, Windham,
1158		S. H. Purdy, Shamokin,
802	†Bone and Potash,	Kernochan & Co., Titusville,
235		Orwell Club, Orwell,
1156		S. H. Purdy, Shamokin,
1174		J. B. Wilson, New Sheffield,
415	†General Crop,	John H. Wingert, Lewisburg,
374		F. R. Strong, Columbia Cross Roads,
565		Ross Snyder, New Lexington,
	Josiah Cope & Co., Lincoln University, Pa.	
346	†Soluble Bone and Potash,	C. S. Greibelbis, Shoemakersville,
150		O. W. Shortledge, & Co., Lincoln Univ.,
584		L. A. Geiger, Joanna,
370	†H. G. Soluble Bone and Potash,	F. D. A. Kingsley, East Smithfield,
345		A. S. Greibelbis, Shoemakersville,
585		L. A. Geiger, Joanna,
	Jas. G. Downward & Son, Coatesville, Pa.	
460	Soluble Bone and Potash,	Jas. G. Downward Co., Coatesville,
	Eureka Fertilizer Co., Perryville, Md.	
188	Alkaline Bone and Potash,	W. F. Miller, Pine Grove,
	W. S. Farmer & Co., Baltimore, Md.	
267	†B. and P. Phosphate,	Cover & Son, Meyersdale,
33		J. S. Waite & Co., Bellefonte,
567		Samuel Alcott, Ursina,
	Griffith & Boyd, Baltimore, Md.	
719	XX Potash Manure,	Henry Richlin, Dushore,
	S. M. Hess & Bro., Philadelphia, Pa.	
516	Emperor Phosphate,	J. W. Hoffman, Gratz,
433	Soluble Bone and Potash,	W. F. Hafer, New Columbia,
46		H. E. Deick, Millheim,
517		J. W. Hoffman, Gratz,
	Hubbard Fertilizer Co., Baltimore, Md.	
334	†Soluble Bone and Potash,	Wesley Seltzer, Orwigsburg,
426		E. Everett, Watsontown,
	Jarecki Chemical Co., Sandusky, Ohio.	
261	Phosphate and Potash,	John Mosholder, Berlin,
	***Lancaster Chemical Co., Lancaster, Pa.**	
864	No. 10 Economist Fertilizer,	Geise & McBride, Elizabethtown,
919	Special Potash Manure,	C. J. Bushey, Dillsburg,
	D. Levan, Lebanon, Pa.	
15	Soluble Bone and Potash,	Horace Reighner, Pottstown,
	E. H. Lippy & Son, Littlestown, Pa.	
872	Bone and Potash Phosphate,	A. P. Lippy, Littlestown,
	Lister's Agricultural Chemical Works, Newark, N. J.	
646	†Alkaline Bone,	G. N. Martin & Co., Saltsburg,
312		A. H. Giffin, Elton,
848		S. Book & Bro., Quarryville,
648	†Animal Bone and Potash No. 1,	G. W. Martin & Co., Saltsburg,
824		Dewey & Hamilton, Meadville,

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
8.63	5.95	4.62	1.48	12.05	11.00	10.57	10.00	2.67	3.66	*6.33	8.00	19.12	20.00	685
													16.00	222
													19.00	1127
													19.00	1158
10.23	7.28	4.31	1.22	*12.81	13.00	*11.59	12.00	2.80	1.56	*4.36	5.00	17.38	25.00	802
													15.10	235
													18.00	1156
													20.00	1174
7.03	3.98	5.24	1.81	11.03	10.00	9.22	9.00	.93	1.75	*2.68	3.00	14.16	13.00	415
													24.00	374
													15.00	565
9.59	6.22	3.74	1.21	11.17	.....	*9.96	10.00	1.98	.....	*1.98	2.00	13.59	13.00	346
													13.50	150
													14.00	584
10.42	6.62	3.77	.97	11.36	.....	10.39	10.00	.....	4.96	*4.96	5.00	17.72	20.00	370
													15.00	345
													15.00	585
8.09	4.87	2.32	.47	*7.66	10.00	*7.19	9.00	3.51	.....	*3.51	4.00	13.05	.....	400
11.06	1.52	8.82	2.86	13.20	12.00	10.34	10.00	2.11	.....	2.11	2.00	13.98	16.00	188
10.65	7.11	2.77	.58	*10.46	11.50	*9.88	10.00	2.16	.....	2.16	2.00	13.58	15.00	267
													14.50	33
													16.50	567
13.26	6.87	4.65	1.49	13.01	11.00	11.52	10.00	4.90	.....	*4.90	5.00	17.67	20.00	719
								1.24	.....	1.24	1.00	12.37	16.00	516
9.76	5.55	4.17	.55	10.27	.....	*9.72	10.00	2.08	.....	2.08	2.00	13.50	.....	433
													.....	46
11.44	5.92	3.87	1.03	10.82	.....	*9.79	10.00						18.00	517
12.60	5.78	4.70	1.31	11.79	.....	10.48	10.00	2.27	.....	2.27	2.00	14.16	13.50	334
													13.00	426
11.66	4.42	5.36	1.50	11.28	11.00	*9.78	10.00	2.83	.....	2.83	2.00	14.26	16.50	261
7.44	3.13	6.08	1.13	*10.34	11.00	*9 21	10.00	3.20	.....	3.20	2.00	14.12	17.00	86a
11.10	4.27	5.06	3.20	12.53	11.00	*9.33	10.00	5.63	.....	5.63	5.00	17.44	16.25	919
14.14	1.02	9.94	.62	11.58	.....	10.96	8.00	1.38	.....	*1.38	5.00	12.78	18.00	15
13.04	6.34	3.80	.42	10.56	.....	10.14	10.00	2.12	.....	2.12	2.00	13.54	15.00	872
12.00	5.95	4.35	.79	11.09	11.00	10.30	10.00	2.07	.....	2.07	2.00	13.68	16.00	646
													14.50	312
													14.00	848
15.23	3.68	4.40	1.48	*9.56	10.00	*8.08	9.00	4.49	.....	*4.49	5.00	14.83	20.00	648
													21.00	824

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	D. B. Martin & Co., Baltimore, Md.	
587	Potash and Soluble Bone.	A. M. Shoener, Womelsdorf,
	Miller Fertilizer Co., Baltimore, Md.	
118	Clinch Phosphate,	Wenger & Wadel, Shippensburg,
	Nassau Fertilizer Co., New York.	
201	†Potash and Phosphate,	J. B. Shelley, Big Mount,
75		W. W. McCullough, New Sheffield,
959		A. M. McClure, Everett,
498	Grain and Grass Fertilizer,	W. I. Hay, Millersburg,
591	†Royal Mixture,	Henry Lausch, Denver,
1102		Henry Reigel, Fredericksburg,
	Patapsco Guano Co., Baltimore, Md.	
450	Patapsco H. G. Bone and Potash,	W. F. Slagle, Bloomsburg,
884	Patapsco Phospho Potash,	J. N. Hersh, New Oxford,
	Penna. Ammonia and Fertilizer Works, Harrisburg, Pa.	
1036	Acid Phosphate and Potash,	C. E. Gilsbough, Duncannon,
	J. D. Perkins, Coatesville, Pa.	
386	Globe Phosphate,	J. D. Perkins, Coatesville,
	Piedmont-Mt. Airy Guano Co., Baltimore, Md.	
497	Piedmont Soluble Bone and Potash,	Geo. M. Lenker, Millersburg,
1045	Special Crop Grower,	Steininger Bros., Middleburg,
	Pollock Fertilizer Co., Baltimore, Md.	
193	†Dissolved Bone and Potash,	J. W. O. Miller, York Springs,
1079		J. F. Smith, Center Hall,
	Rasin Monumental Co., Baltimore, Md.	
175	Special Bone and Potash,	Edward Spancake, Pine Grove,
1039	†Special Formula for Corn and Buckwheat.	Isaac Shire, McClure,
208		Z. M. Danner, Abbottstown,
1187		D. S. Meyer, Bareville,
251	†Rasin's Bone and Potash Fertilizer,	Levi Berkey, Somerset,
207		Z. M. Danner, Abbottstown,
176		Edw. Spancake, Pine Grove,
26		C. B. McCormick, State College,
434		Peter Haas, New Columbia,
472		Elias Brubacher, Richland,
	Reading Bone Fertilizer Co., Reading, Pa.	
1093	Special Grain and Grass Grower,	J. H. Kuntz, Shellsville,
	Sehaal-Sheldon Fertilizer Co., Erie, Pa.	
71	Dissolved Bone and Extra Potash,	A. E. Day, Spartansburg,
	Scott Fertilizer Co., Elkton, Md.	
165	Soluble Bone and Potash,	B. W. Jones, Doe Run,
744	Fritchs Special for Grain and Grass,	L. W. Fritch, Macungie,
	Chas. A. Siekler & Bro., Wilkes-Barre, Pa.	
973	Soluble Bone and Potash,	Ellis Eves & Bro., Millville,
	H. H. Smyser, York, Pa.	
889	Chicago Crop Grower,	Henry Linebaugh, Roler,

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
11.58	5.51	4.80	1.80	12.11	.....	10.31	10.00	2.16	.....	2.16	2.00	14.08	15.00	587
11.63	5.35	6.15	.60	12.10	11.50	11.50	10.00	1.57	.....	*1.57	2.00	13.75	13.00	118
11.09	7.85	2.79	.64	11.28	11.00	10.64	10.00	4.55	.....	*4.55	5.00	16.62	16.00	201
													16.75	75
													18.00	959
10.56	6.17	4.27	.45	*10.89	11.00	10.44	10.00	2.02	.....	2.02	2.00	13.63	14.00	498
9.32	3.85	4.40	.56	*8.81	9.00	8.25	8.00	5.36	.....	5.36	5.00	15.48	13.00	591
													15.50	1102
9.45	8.66	2.52	.74	*11.92	12.00	11.18	11.00	4.63	.....	*4.63	5.00	17.14	16.50	450
5.54	1.50	5.25	.51	7.26	7.00	6.75	6.00	3.11	.....	3.11	3.00	11.98	15.00	884
8.15	2.15	6.15	.59	*8.89	11.00	*8.30	10.00	3.19	.....	3.19	3.00	13.12	14.00	1038
10.90	5.60	3.70	1.46	10.76	.....	*9.30	10.00	1.93	.....	*1.93	2.00	13.17	17.00	386
8.88	4.69	3.76	.36	8.81	.....	8.45	8.00	2.11	.....	2.11	2.00	12.32	14.00	497
7.96	4.64	1.52	.28	6.44	.....	6.16	6.00	3.09	.....	3.09	3.00	11.92	13.00	1045
9.90	6.95	3.55	.65	11.15	.....	10.50	10.00	3.91	.....	*3.91	4.00	15.76	15.00	193
													.....	1079
11.28	5.34	5.07	.50	*10.91	11.00	10.41	10.00	5.70	.....	5.70	5.00	17.29	19.00	175
6.83	1.68	4.63	3.67	9.98	7.00	6.31	6.00	3.53	.....	3.53	3.00	13.36	13.50	1039
													14.00	208
													13.00	1187
													.....	251
12.66	6.80	3.22	1.58	11.60	11.00	10.02	10.00	2.63	.....	2.63	2.00	14.49	14.00	207
													13.50	176
													.....	26
													15.00	434
													14.28	472
11.18	3.95	6.48	1.94	12.37	12.00	10.43	10.00	2.23	.....	2.23	2.00	14.12	18.00	1093
9.26	6.10	4.29	.69	11.08	11.00	10.39	10.00	2.08	.....	*2.08	4.00	13.77	16.00	71
12.10	6.06	5.82	1.71	13.59	.....	*11.88	12.00	4.61	.....	*4.61	5.00	17.58	17.00	165
12.46	11.14	2.67	2.13	15.94	.....	13.81	13.00	5.46	.....	*5.46	6.00	20.36	19.00	744
10.01	8.38	1.93	2.13	12.44	.....	10.31	10.00	2.37	.....	2.37	2.00	14.78	13.50	973
11.36	8.68	2.26	.09	11.03	.....	10.94	10.00	1.97	.....	*1.97	2.00	14.05	14.00	889

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	I. P. Thomas & Sons Co., Philadelphia, Pa.	
465	†Special Corn Fertilizer,	E. W. Rupp, Shiremanstown,
1163		L. L. H. Crall, Shippingport,
225	Alkaline Bone,	A. E. Wodruff, Leraysville,
	I. P. Thomas & Sons Co., Philadelphia, Pa.	
458	†Special Alkaline Bone,	E. W. Rupp, Shiremanstown,
317		C. H. Moyer, Cressona,
		Edward Shuey, Lickdale,
1081	†Square Deal Fertilizer,	S. E. Seidel, Hornburg,
349		D. F. Stitzel, York Springs,
196		E. W. Rupp, Shiremanstown,
462		
1116	Special Corn Fertilizer,	M. McVicar, Hopbottom,
	F. W. Tunnell & Co., Philadelphia, Pa.	
741	Gehman's Special,	W. M. Gehmen, Macungie,
	Tuscarora Fertilizer Co., Baltimore, Md.	
737	Tuscarora Alkaline,	J. Singmaster & Co., Macungie,
	Virginia Carolina Chemical Co., Richmond, Va.	
1044	†Corn and Buckwheat Special,	Steinniger Bros., Middleburg,
202		P. C. Smith, East Berlin,
1075		S. C. Grazier, Warrior's Mark,
325	Bone and Potash,	Charles W. Focht, Mohrsville,
	F. K. Walt Co., Reading, Pa.	
778	Bone and Potash,	John L. Nissley, Middletown,
	John Whann & Son, Philadelphia, Pa.	
123	Soluble Bone and Potash,	John Wham & Son, Kelton,
	R. A. Wooldridge & Co., Baltimore, Md.	
124	Liberty Bell Potash Mixture,	Frank Evans, Kelton,
921	Ideal Grain and Grass Producer,	J. W. Gladfelter, Rossville,
	York Chemical Works, York, Pa.	
1051	Dempwalf's Red Cross Fertilizer,	G. N. Erdley, Selinsgrove,
852	†Dempwolf's Wheat Special,	W. J. Hess, Quarryville,
204		P. C. Smith, East Berlin,
938		Lewis Lean, Dillsburg,
214	Dempwolf's Black Cross Fertilizer,	D. M. Frey & Sheffer, Hanover,
868	†Dempwolf's York Special Fertilizer,	D. M. Frey & Sheffer, Hanover,
850		W. J. Hess, Quarryville,
1008		A. W. Nale, Milroy,

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Present as muriate.	Present as sulphate.	Total.				
				Found.	Guaranteed.	Found.	Guaranteed.			Found.	Guaranteed.			
10.34	2.73	7.92	1.84	12.49	11.00	10.65	10.00	3.20	3.88	7.08	6.00	19.74	21.00	465
													23.50	1163
8.62	2.60	7.58	1.40	11.58	11.00	10.18	10.00	2.13	2.40	4.53	2.00	16.41	20.00	225
													16.50	458
10.16	3.49	6.23	1.52	11.24	11.00	*9.72	10.00	3.34	1.66	5.00	4.00	16.62	17.00	317
													18.00	1081
													14.50	349
11.11	3.72	5.88	1.05	10.65	10.00	9.60	9.00	2.67	1.17	3.84	3.00	15.13	14.00	196
													14.00	462
12.19	2.57	7.43	1.80	11.80	11.00	10.00	10.00	3.20	3.61	6.81	6.50	18.94	21.60	1116
12.28	7.73	5.53	.66	*13.32	14.00	13.26	13.00	6.42	.....	6.42	6.00	20.05	18.00	741
8.00	8.20	2.59	.51	*11.30	12.00	10.79	10.00	5.14	.....	5.14	5.00	17.30	17.00	737
													13.00	1044
6.97	1.24	4.91	3.52	9.67	7.00	6.15	6.00	3.62	.....	3.62	3.00	13.17	12.00	202
													14.00	1075
11.82	5.04	4.40	1.11	*10.55	11.00	*9.44	10.00	2.43	.....	2.43	2.00	13.57	13.30	352
7.93	3.04	6.32	5.85	15.21	.....	9.36	.....	3.29	.....	3.29	.....	15.86	22.00	778
11.51	6.58	3.50	1.30	11.38	.....	10.08	10.00	2.02	.....	2.02	2.00	13.76	14.00	123
10.38	9.32	2.73	.59	*12.64	13.00	12.05	12.00	2.87	.....	*2.87	3.00	15.87	17.00	124
9.53	5.86	3.81	.77	*10.44	11.00	*9.67	10.00	4.31	.....	4.31	4.00	15.57	16.50	921
9.79	5.18	5.76	.78	11.72	11.00	10.94	10.00	5.04	.....	5.04	5.00	17.02	18.00	1051
													15.00	852
11.33	7.42	3.15	1.22	11.79	11.00	10.57	10.00	2.02	.....	2.02	2.00	14.13	13.00	204
													15.00	938
11.93	7.65	3.76	1.38	12.79	11.00	11.41	10.00	1.42	.....	*1.42	2.00	14.10	15.00	214
													18.00	868
8.00	4.35	4.07	1.52	9.94	9.00	8.42	8.00	4.28	....	4.28	4.00	14.92	16.00	850
													17.00	1008

*Constituent falls below guaranty.

DISSOLVED BONE

Furnishing Phosphoric

Sample number.	From Whom Sample Was Taken	Manufacturer and Brand.
	Lister's Agricultural Chemical Works, Newark, N. J.	
160 628	†Celebrated Ground Bone Acidulated, ..	Passmore & Gillispie, Nottingham, ... A. H. Giffin, Elton, ...
	D. B. Martin & Co., Baltimore, Md.	
870	Pure Dissolved Annual Bone, ...	A. P. Lippy, Littlestown, ...
	Pittsburg Provision & Packing Co., Pittsburg, Pa.	
692	Guano Fertilizer, ...	John H. Laird, Wyland, ...
	F. W. Tunnell & Co., Philadelphia, Pa.	
144	Raw and Acidulated Bone, ...	Wilson & Mendenhall, Toughkenamon, ...

†Composite sample.

FERTILIZERS.

Acid and Nitrogen.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Nitrogen in 100 Pounds.		Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.		Found.	Guaranteed.			
				Found.	Guaranteed.	Found.	Guaranteed.					
5.28	.77	2.71	8.67	12.15	.....	3.48	.....	3.00	2.68	24.13	25.00 25.00	160 628
6.16	7.33	5.32	3.83	16.48	.....	12.65	12.00	*1.61	1.65	25.18	24.00	870
2.50	2.83	3.98	4.54	11.35	11.00	*6.81	9.00	*1.39	1.65	18.48	22.00	692
8.39	5.72	4.26	9.66	*19.64	20.00	*9.98	10.00	*1.06	1.65	22.80	26.00	144

*Constituent falls below guaranty.

GROUND BONE

Furnishing Phosphoric

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	American Agricultural Chemical Co., New York.	
300	†Pure Ground Bone,	Abram Hostettler, Scalp Level,
688		Lee Lutes, Charleroi,
796	Fine Ground Bone,	Davis & Hyde, Spartansburg,
552	Fine Ground Bone,	B. F. Rombo, Linfield,
	Crocker Branch, Buffalo, N. Y.	
51	Pure Ground Bone,	Union Coal & Supply Co., Union City,
	Milsom Branch, Buffalo, N. Y.	
820	Fine Ground Bone,	Harry Dewey, Blooming Valley,
	Armor Fertilizer Works, Chicago, Ill.	
61	†Bone Meal,	Acme Milling Co., Corry,
992		S. G. Updegraff, Williamsport,
62	†Raw Bone Meal,	Acme Milling Co., Corry,
907		F. H. Shenberger, Brownston Station,
	Baugh & Sons Co., Philadelphia, Pa.	
620	†Baugh's Raw Bone Meal Warranted Pure.	Jos. A. Little, Washington,
135		Pennoch & Brosius, Avondale,
1143		J. Watson Craft, Ambler,
305	†Raw Bone Meal,	N. J. Hoffman, Eltor.,
20		M. W. Bailey, Pottstown,
954		Francis Baker, Everett,
	Berg Co., Philadelphia.	
546	Raw Bone Fine,	H. Jarrett, Hatboro,
	Bowker Fertilizer Co., Boston, Mass.	
697	Fresh Ground Bone,	W. C. Beckert, Allegheny,
	Buffalo Fertilizer Co., Buffalo, N. Y.	
825	Bone Meal,	L. E. Britton, Saegerstown,
	Cambria Fertilizer Works, Johnstown, Pa.	
945	†Pure Fine G. B. Dust,	Wm. H. Reese, Wilmore,
1215		Bloom, Notley & Kimball, Ebensburg,
	Henry Cope & Co., Lincoln University, Pa.	
138	Pure Raw Ground Bone,	Henry Cope & Co., Oxford,
	Josiah Cope & Co., Lincoln University, Pa.	
154	Ground Steamed Bone,	McKissick, Armstrong & Cannon, Oxford,
	Griffith & Boyd, Baltimore, Md.	
88	*Soft Ground Bone,	L. & F. Hoberg, Sharpsburg,
311	*Soft Ground Bone Meal,	J. G. Varner, Elton,
	Lancaster Chemical Co., Lancaster, Pa.	
387	Pure Bone Meal,	J. M. Templin, Coatesville,
	D. Levan, Lebanon, Pa.	
17	Pure Fine Ground Raw Bone,	Horace Reighner, Pottstown,
	Lister's Agricultural Chemical Works, Newark, N. J.	
66	‡Celebrated Ground Bone,	F. L. Heath, Corry,
69	Bone Meal,	F. L. Heath, Corry,

†Composite sample.
‡Contains considerable added sulfates.
*Contains added sulfates and carbonates.

FERTILIZERS.

Acid and Nitrogen.

Moisture in 100 pounds.	Mechanical Analysis.		Chemical Analysis.				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Diameter less than 1-50 inch "fine."	Diameter greater than 1-50 inch, "coarse."	Phosphoric Acid.		Nitrogen.				
			Found.	Guaranteed.	Found.	Guaranteed.			
6.25	56	44	21.00	20.60	3.71	3.30	28.86	30.00	300
								30.00	688
8.17	88	12	*22.07	22.80	3.41	2.47	30.00	25.00	796
3.19	76	24	24.10	22.80	3.16	2.47	30.08	30.00	552
5.14	67	33	20.98	.....	4.04	.....	30.45	27.00	51
5.56	70	30	25.38	.....	2.95	.....	30.06	28.00	820
3.74	83	17	*23.61	24.00	2.85	2.47	29.05	30.00	61
								32.00	992
7.11	77	23	22.47	22.00	4.07	3.71	31.90	31.00	62
								30.00	907
								30.00	620
6.64	59	41	*20.79	21.50	3.85	3.71	29.32	28.50	135
								29.00	1143
								30.00	305
7.39	87	13	*20.12	21.50	3.88	3.71	30.22	28.00	20
								30.00	954
8.19	62	38	*17.83	20.00	*3.00	3.30	24.76	28.00	546
5.60	72	28	24.49	22.80	2.62	2.47	28.40	29.00	697
3.93	72	28	*23.41	25.00	2.70	2.47	27.98	25.00	825
5.41	60	40	21.59	20.00	*2.78	3.00	26.60	28.00	945
								31.00	1215
7.12	57	43	21.30	20.00	3.51	3.30	28.48	28.00	138
3.69	83	17	24.29	23.00	*2.45	2.47	28.24	25.00	154
3.20	69	31	*8.72	11.00	2.73	2.47	17.97	26.50	88
5.81	69	31	12.05	11.00	*1.97	2.47	17.70	27.00	311
5.28	46	54	17.85	19.00	5.03	3.71	30.55	28.00	387
4.16	70	30	*21.20	27.00	2.77	2.55	26.56	26.00	17
4.34	69	31	12.15	.....	2.85	2.68	20.65	27.00	66
5.73	60	40	20.67	.....	3.68	2.68	28.80	32.00	69

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	Mapes Formula and Peruvian Guano Co., New York, N. Y.	
525	Steamed Pure Ground Bone,	P. H. Updegrave, Valley View,
	Miller Fertilizer Co., Baltimore, Md.	
157	Ground Bone,	Miller T. Harkins, Oxford,
	Patapsco Guano Co., Baltimore, Md.	
291	Patapsco Ground Steamed Bone,	W. H. Black, Ebensburg,
	Pittsburg Provision and Packing Co., Pittsburg, Pa.	
85	†Pure Raw Bone Meal,	Scobie & Parker, Pittsburg,
698		W. C. Beckert, Allegheny,
86	No. 1 Pure Raw Bone Meal,	W. J. Sheridan, Pittsburg,
680	Bone Flour,	W. C. Beckert, Allegheny,
	Pollock Fertilizer Co., Baltimore, Md.	
908	Ground Animal Bone,	F. H. Shenberger, New Bridgeville,
	Schall Sheldon Fertilizer Works, Erie, Pa.	
70	†Pure Bone Meal,	A. E. Day, Spartansburg,
696		I. W. Scott & Co., Pittsburg,
	Scientific Fertilizer Co., Pittsburg, Pa. Branch of the Buffalo Fertilizer Works, Buffalo, N. Y.	
283	Scientific Pure Raw Bone Meal,	H. L. Fike, Meyersdale,
	M. L. Shoemaker & Co.	
322	Swift Sure Raw Bone Meal,	A. F. Spittler, Pine Grove,
	Swift & Co., Chicago, Ill.	
293	Pure Special Bone Meal,	D. J. Davis, Ebensburg,
	Virginia Carolina Chemical Works, Richmond, Va.	
298	Pure Raw Bone,	Abram Hostettler, Scalp Level,
	Emil Wahl, Philadelphia, Pa.	
10	Button Bone Dust,	Hillis & Taggart, Norristown,

†Composite sample.

FERTILIZERS—Continued.

Moisture in 100 pounds.	Mechanical Analysis.		Chemical Analysis.				Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Diameter less than 1-50 inch "fine."	Diameter greater than 1-50 inch, "coarse."	Phosphoric Acid.		Nitrogen.				
			Found.	Guaranteed.	Found.	Guaranteed.			
5.94	63	37	24.80	20.00	*1.20	2.88	23.77	27.00	525
4.33	74	26	18.09	13.00	2.54	2.47	23.92	26.00	157
4.67	82	18	24.18	23.00	2.70	2.47	28.94	.....	291
4.03	79	21	*18.86	22.00	4.39	4.12	30.63	28.00	85
								29.00	698
5.78	63	37	*21.16	26.00	4.68	3.71	33.64	30.00	86
3.88	100	.....	*16.80	20.00	4.48	3.71	30.42	40.00	689
5.18	70	30	*21.30	21.52	3.66	3.30	29.50	30.00	908
8.56	65	35	22.45	22.00	3.86	3.30	30.72	26.00	70
								.....	696
3.27	83	17	*19.72	22.00	3.73	3.30	29.28	24.00	283
2.60	93	7	23.71	20.00	4.58	2.47	35.38	30.00	322
8.63	83	17	*27.10	27.50	1.93	.82	28.54	25.00	293
7.01	60	40	*18.69	22.00	4.06	3.71	28.60	30.00	298
12.24	80	20	*24.16	24.55	3.58	3.40	31.77	30.00	10

*Constituent falls below guaranty.

ACIDULATED

Furnishing

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	Allegheny City Fertilizer Works, Allegheny, Pa. Branch of the Buffalo Fertilizer Works, Buffalo, N. Y.	
678	Full Value Phosphate,	K. E. Algeo, Mt. Lebanon,
	American Agricultural Chemical Co., New York.	
626	Buyers Choice Acid Phosphate,	A. H. Giffin, Elton,
	Bradley Branch, New York.	
687	†Soluble Dissolved Bone,	Lee Lutes, Charleroi,
438		Eli Yost, McEwensville,
715		Wm. Hart, Elkland,
	Canton Chemical Branch, Baltimore, Md.	
574	†Baker's Dissolved Bone Phosphate,	D. T. F. Jacobs, Somerfield,
511		J. A. Bomberger, Elizabethville,
934		Marion Warehouse Co., Marion,
947		H. Frank Gump, Everett,
	Crocker Branch, Buffalo, N. Y.	
55	Dissolved Bone Phosphate,	Union Coal and Supply Co., Union City,
	Detrick Branch, Baltimore, Md.	
28	Detrick's Dissolved Bone,	D. A. Grove, Lemont,
904	Orchilla Guano,	G. B. Murphy, Keys,
	Maryland Branch, Baltimore, Md.	
442	Maryland Dissolved S. C. Bone,	J. A. Gass, Sunbury,
941	Maryland Dissolved S. C. Phosphate,	Smith, & McKelvey, Blairsville,
	Moro Phillips Branch, Philadelphia, Pa.	
1136	Soluble Bone Phosphate,	James Missner, Butztown,
	Packers' Union Branch, Rutland, Vt.	
39	Acidulated Bone,	Frank H. Wian, Bellefonte,
	Quinnipiac Branch, New York, N. Y.	
636	Quinnipiac Soluble Dissolved Bone,	J. L. Culp, Indiana,
	Reese Branch, Baltimore, Md.	
1133	Dissolved Phosphate of Lime,	Frank C. Williams, Easton,
1088	Elm Phosphate,	A. G. Houtz, Truckville,
	Susquehanna Branch, Baltimore, Md.	
125	Susquehanna Superior Rock Phosphate,	H. P. Passmore, Kelton,
	M. E. Wheeler & Co. Branch, Rutland, Vt.	
163	Electrical Dissolved Bone,	Howard Pusey, Clonnell,
	Zell's Guano Branch.	
54	Dissolved Bone Phosphate,	Union Coal and Supply Co., Union City,
	Armor Fertilizer Works, Chicago, Ill.	
56	†Cereal Phosphate,	Acme Miling Co., Corry,
764		George Campbell, Normalville,
1130	Star Phosphate,	Thomas Kunkel, Easton,

†Composite sample.

ROCK PHOSPHATES.

Phosphoric Acid.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.				
				Found.	Guaranteed.	Found.	Guaranteed.			
2.09	3.43	6.63	3.14	13.20	13.00	*10.06	12.00	10.78	16.00	678
10.82	11.19	3.97	.42	15.58	.....	15.16	.....	13.81	13.50	626
10.60	9.34	4.82	1.91	16.07	15.00	14.16	14.00	13.50	17.00	687
									12.00	438
									14.00	715
9.35	10.96	3.10	1.01	15.07	15.00	14.06	14.00	13.30	15.00	574
									12.00	511
									11.50	934
									13.00	947
12.31	10.56	3.59	1.86	16.01	15.00	14.15	14.00	13.63	14.00	55
9.13	10.20	4.12	.69	15.01	15.00	14.32	14.00	13.26	12.75	28
5.32	.08	3.67	12.11	15.86	.....	*3.75	14.00	9.82	16.00	904
10.54	10.39	4.00	1.23	15.62	15.00	14.39	14.00	13.52	13.00	442
12.88	9.79	4.69	1.64	16.12	15.00	14.48	14.00	13.65	14.00	941
12.13	12.05	2.20	.50	*14.75	15.00	14.25	14.00	13.38	.....	1136
11.00	11.30	3.36	.29	*14.95	15.00	14.66	14.00	13.46	12.50	39
11.45	10.38	4.55	1.24	16.17	15.00	14.93	14.00	13.84	14.00	636
8.35	12.13	3.03	1.93	17.09	15.00	15.16	14.00	14.47	13.00	1133
7.50	10.66	3.80	1.01	15.47	15.00	14.46	14.00	13.51	12.00	1088
11.34	10.45	3.56	1.01	15.02	15.00	14.01	14.00	13.22	11.50	125
10.95	9.76	4.04	.89	*14.69	15.00	*13.80	14.00	12.98	10.50	163
10.57	12.38	2.24	1.96	16.58	15.00	14.62	14.00	14.19	14.00	54
7.41	6.92	4.69	.50	12.11	12.00	11.61	10.00	11.17	15.00	56
									.....	764
9.10	12.13	3.30	.64	16.07	16.00	15.43	14.00	14.13	12.00	1130

*Constituent falls below guaranty.

Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.
	Baugh & Sons Co., Philadelphia, Pa.	
448	†H. G. Acid Phosphate,	Boettinger & Deitz, Danville,
134		Pennoch & Brosius, Avondale,
510		J. A. Bomberger, Elizabethville,
553	H. G. Phosphate,	F. W. Mason, Rockwood,
	Bowker Fertilizer Co., Boston, Mass.	
1105	†Dissolved Bone Phosphate,	A. E. Mowry, Meshoppen,
376		H. M. Spolding, Troy,
1172		B. F. McClure & Bro., Burgettstown,
521	†Apex Bone Phosphate,	S. G. Carl, Fearnot,
1066		B. F. Fink, Huntingdon,
304	Soluble Bone,	Abraham Hostettler, Scalp Level,
	S. D. Brodbeck, Brodbeck, Pa.	
216	Ruth Dissolved Bone Phosphate,	D. M. Frey & Sheffer, Hanover,
	Brumfield & Foster.	
147	B. and F. H. G. Acid Phosphate,	Wilson & Mendenhall, Toughkenamon,
	Buffalo Fertilizer Co., Buffalo, N. Y.	
223	†Soluble Bone,	C. Werkheizer & Co., Potterville,
682		J. B. Wilson,
714	16 per cent. Acid Phosphate,	Albert Kay, Elkland,
	Henry Cope & Co., Lincoln University, Pa.	
130	Acid Phosphate,	S. K. Chambers & Bro., Elkview,
	Josiah Cope & Co., Lincoln University, Pa.	
153	†Acidulated Phosphate,	O. W. Shortlidge & Co., Lincoln Univ.,
369		F. D. A. Kingsley, East Smithfield,
	Eureka Fertilizer Co., Perryville, Md.	
768	P. and P. Superphosphate,	Francis Eberharter, Mill Run,
	W. S. Farmer & Co., Baltimore, Md.	
266	†Dissolved S. C. Bone,	Cover & Son, Meyersdale,
34		J. S. Waite & Co., Bellefonte,
569		Samuel Alcott, Ursina,
	Griffith & Boyd.	
640	†Original Superphosphate,	S. N. Moorehead & Son, Indiana,
856		Elam G. Book, Refton,
	S. M. Hess & Bro., Philadelphia, Pa.	
693	Soluble Bone,	F. O. Shearer, Eighty Four,
	M. P. Hubbard & Co., Baltimore, Md.	
979	Soluble S. C. Phosphate,	J. L. Johns & Son, Millville,
	Lancaster Chemical Co., Lancaster, Pa.	
887	Acid Phosphate,	C. J. Bushey, Mt. Top,
	E. Mehring, Bruceville, Md.	
876	Acid Phosphate,	John N. Slifer, Littlestown,
	Michigan Carbon Works, Detroit, Mich.	
710	Red Line Phosphate,	Augustus Hugs, Eldredsville,
	Miller Fertilizer Co., Baltimore, Md.	
846	S. C. Rock,	S. Book & Bro., Quarryville,

PHOSPHATES—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Computed commercial value of 2,000 pounds at Department rating. (See p. 10.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.				
				Found.	Guaranteed.	Found.	Guaranteed.			
11.31	11.49	3.23	1.24	15.96	.....	14.72	14.00	13.86	13.00	448
									11.50	134
									12.00	510
12.75	11.02	2.79	1.27	15.08	.....	*13.81	14.00	13.29	.....	553
									15.00	1105
8.42	8.45	2.67	2.40	13.52	12.00	11.12	11.00	11.74	16.00	376
									18.00	1172
6.30	4.16	5.77	.89	10.82	10.00	9.93	9.00	9.97	.....	521
									12.00	1066
10.20	11.58	4.12	.45	16.15	15.00	15.70	14.00	14.18	13.00	304
10.19	10.36	3.90	.50	14.76	.....	14.26	.....	13.17	11.00	216
9.88	8.85	5.24	1.21	15.30	.....	14.09	14.00	13.16	12.00	147
11.21	6.34	5.08	3.26	*14.68	15.00	*11.42	14.00	12.01	16.00	223
									14.00	682
13.48	5.47	7.13	3.06	*15.66	17.00	*12.60	16.00	12.52	16.00	714
10.67	11.53	3.88	1.12	16.53	15.00	15.41	14.00	14.25	11.50	130
10.60	10.30	3.96	1.04	15.30	.....	14.26	14.00	13.38	11.50	153
									15.00	389
6.65	2.52	10.76	2.84	16.12	.....	*13.28	14.00	12.49	15.00	768
10.56	10.92	3.08	.70	*14.71	16.00	14.01	14.00	13.17	14.00	266
									13.00	34
									13.50	569
12.97	10.52	1.87	.78	13.17	13.00	12.39	12.00	12.16	14.00	640
									12.50	856
12.10	10.01	4.01	1.13	15.15	15.00	14.02	14.00	13.22	15.00	693
11.78	9.37	3.71	.14	*13.22	15.50	*13.08	14.00	12.21	12.00	979
8.54	6.57	5.91	5.56	18.04	15.00	*12.48	14.00	13.50	12.50	887
10.38	11.50	2.87	4.04	18.41	16.00	*14.37	15.00	14.66	13.00	876
11.20	4.23	3.39	1.67	*9.29	15.00	*7.62	14.00	8.90	17.00	710
12.90	10.18	3.29	.60	14.07	.....	*13.47	14.00	12.70	12.50	846

*Constituent falls below guaranty.

Sample number.	Manufacture and Brand.	From Whom Sample Was Taken.
	Nassau Fertilizer Co., New York.	
199 379	†Soluble Bone Phosphate, ...	M. H. Gochnauer, Hall, ... Compton & Lilley, Troy, ...
	Schaal-Sheldon Fertilizer Co., Erie, Pa.,	
79	Dissolved Bone, ...	I. W. Scott & Co., Pittsburg, ...
	M. L. Shoemaker & Co., Philadelphia, Pa.	
321	Swift Sure Dissolved S. C. Rock, ...	A. F. Spittler, Pine Grove, ...
	Smith Agricultural Chemical Co., Columbus, O.	
1171	10 Per Cent. Acid Phosphate, ...	B. F. McClure & Bro., Burgettstown, ...
	James Thomas, Williamsport, Pa.	
37 1216	†Dissolved Soluble Bone Phosphate, ...	McCalmont & Co., Bellefonte, ... Baker Bros., Kimball, ...
	Virginia Carolina Chemical Co., Richmond, Va.	
299	14 Per Cent. Acid Phosphate, ...	A. Hostetler, Scalp Level, ...
	York Chemical Works, York, Pa.	
851 937	†Dempwolf's Dissolved Phosphate, ...	Wm. J. Hess, Quarryville, ... Lewis Lan, Franklintown, ...

†Composite sample.

PHOSPHATES—Continued.

Moisture in 100 pounds.	Phosphoric Acid in 100 Pounds.							Computed commercial value of 2,000 pounds at Department rating. (See p. 19.)	Selling price of 2,000 pounds at point of selection.	Sample number.
	Soluble in water.	Reverted.	Insoluble.	Total.		Available.				
				Found.	Guaranteed.	Found.	Guaranteed.			
11.79	12.18	3.61	.66	16.45	15.00	15.79	14.00	14.38	13.50	199
									15.00	379
8.03	4.83	8.16	5.05	18.04	15.00	12.99	14.00	13.41	16.00	79
11.31	11.58	2.41	.36	14.35	14.00	13.99	12.00	13.12	13.50	321
9.66	7.98	4.81	2.28	15.07	.....	12.79	10.00	12.66	14.00	1171
6.83	9.25	4.54	1.58	15.37	14.00	13.79	12.00	13.16	11.50	37
									15.00	1216
9.26	9.33	4.21	3.57	17.11	15.00	*13.54	14.00	13.74	13.00	299
10.18	9.70	4.68	1.47	15.85	15.00	14.38	14.00	13.53	12.50	851
									12.50	937

*Constituent falls below guaranty.

MISCELLANEOUS

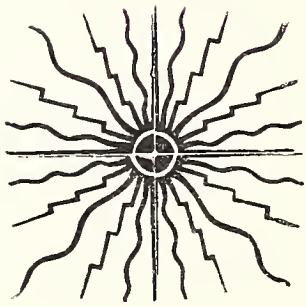
Sample number.	Manufacturer and Brand.	From Whom Sample Was Taken.	Moisture in 100 pounds.
	A. H. Case & Co., Buffalo, N. Y.		
63	Pig Manure,	F. L. Heath, Corry,	3.86
64	Sheep Manure,	F. L. Heath, Corry,	7.79
	Griffith & Boyd, Baltimore, Md.		
981	Nitro Crop Feeder,	Krumm & Derr, Turbotville,	5.28
	Wabash Chemical Co., Baltimore, Md.		
975	Phospho Plaster,	J. L. Johns & Son, Millville,	1.31

†Composite sample.

FERTILIZERS.

Phosphoric Acid in 100 Pounds.							Potash in 100 Pounds. (Water Soluble.)				Nitrogen in 100 lbs.				
			Total.		Available.				Total.						
Soluble in water.	Reverted.	Insoluble.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Found.	Guaranteed.	Found.	Guaranteed.	Computed commercial value of 2,000 pounds at Department rating. (See p. 13.)	Selling price of 2,000 pounds at the point of selection.	Sample number.
.56	1.62	.23	*2.41	6.66	2.18	5.50	.....	.....	1.40	.....	1.87	.....	.....	28.00	63
.51	1.17	.33	*2.01	7.16	1.68	4.87	.....	.....	2.40	.....	2.87	.....	.....	28.00	64
.14	.04	.26	.44	.....	.....	.....	4.83	.....	4.83	2.50	*5.78	7.41	35.10	33.00	981
.21	1.97	.23	2.41	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.62	10.00	975

*Constituent falls below guaranty.



COMMONWEATH OF PENNSYLVANIA.

DEPARTMENT OF AGRICULTURE.

BULLETIN No. 149.

TABULATED ANALYSES

OF

COMMERCIAL FERTILIZERS

FROM

SAMPLES SELECTED IN ACCORDANCE WITH ACT OF MARCH 25, 1901,

BY THE

Pennsylvania Department of Agriculture,

FROM JANUARY 1, 1906, to AUGUST 1, 1906.

HARRISBURG, PA.:
HARRISBURG PUBLISHING CO., STATE PRINTER.
1906.

OATH OF FERTILIZER SAMPLING AGENT.

Commonwealth of Pennsylvania, ss :

Personally appeared before me, ... of .....County of .....and State of Pennsylvania, who being duly sworn according to law, doth depose and say: That he has been duly appointed an agent of the Department of Agriculture of Pennsylvania to collect samples of Commercial Fertilizers for analysis, that he is not in any way interested in the manufacture or sale of any fertilizers, and that he will perform the duties of the office with fidelity in accordance with the requirements of law to the best of his ability, and as set forth in the instructions issued by the Secretary of the Department of Agriculture, governing the sampling of fertilizers in this State.

Sworn and subscribed before me, this ..... day of ..... A.D..... .....

(Signed),.....

INSTRUCTIONS TO AGENTS ENGAGED IN COLLECTING SAMPLES OF FERTILIZERS FOR THE DEPARTMENT OF AGRICULTURE OF PENNSYLVANIA.

Fertilizer manufacturers sometimes allege that there have been errors made on the part of our sampling agents in selecting samples for analysis. It is due these manufacturers, as well as this Department, that the greatest care shall be exercised on the part of all connected with this work, to insure that the samples are fairly taken, are properly sealed and labeled, and are sent to the chemist in exactly the condition in which the goods were found. In order, therefore, that there may be uniformity of practice on the part of our agents, the following instructions have been prepared for their guidance, and strict adherence to these directions is required:

1st.—No sample shall be taken from the manufacturer's warehouse.

2nd.—No agent shall draw more than two samples of any one brand of fertilizer, unless for some special reason, which he shall state in his report.

3d.—Two samples of each brand shall be taken, if possible, selecting them from different localities.

4th.—Each agent shall make report from time to time in duplicate, giving the number of each sample taken, in consecutive order; the name and the address of the manufacturer, the name and address of the agent selling the goods from which the sample is taken; an EXACT copy of the name of the brand of fertilizer; and the selling price per ton of 2,000 lbs. at point of selection. He shall then subscribe his name to each report and send one copy to the official chemist and the other to the Secretary of Agriculture, at Harrisburg, Pa.

5th.—Agents shall occasionally weigh a bag of fertilizer, to verify the markings as to weight.

6th.—Agents shall keep full memoranda of all the samples; stating the number of packages from which the sample is taken, together with such additional notes of information as may be of service for future reference, in case the accuracy of their work is called in question.

7th.—The sample for analysis must be taken from at least four sacks. The sampling tube to be run its full length from the top toward the bottom down the centre of the sack, then turned two or three times to fill it, and the contents emptied upon a sheet of clean, tough paper. The samples from the four sacks to be then thoroughly mixed together, rolling the fertilizer back and forth across the paper by lifting the sides alternately. After thoroughly mixing, take a spatula and run it close along the paper under the mixture, lifting it straight up so as to get a perfect cross section of the heap.

8th.—The sample taken as in paragraph 7, is to be AT ONCE packed into the glass bottle provided for the purpose; the lid immediately screwed down tight, and upon the label attached, give the name of the sampling agent and the number of the sample, as marked upon the agent's list. The bottle containing the fertilizer, to be at once inserted into the paper case provided, first writing his name and the number corresponding to that on the bottle on the outside of the case. Then moisten the gum flap and seal securely.

9th.—In shipping to the chemist, great care is to be taken to so pack the bottles as to avoid breaking, and the shipping directions should be securely attached to the package, with the name of the sampling agent marked on the box.

10th.—Agents will keep the Secretary of Agriculture informed in advance of the points to be visited, so as to be promptly reached by telegraph or mail, if necessary.

SPECIAL NOTICE.

The Act of March 25th, 1901, entitled "An act to regulate the manufacture and sale of commercial fertilizers," provides that any person selling or offering for sale any commercial fertilizer which does not have stamped upon the package containing the same, the name of the manufacturer, the net weight of its contents and a statement of the percentage it contains of nitrogen in available form, potash soluble in water and of soluble, reverted and insoluble phosphoric acid, and for which the manufacturer has not paid the license fee required by law, shall be guilty of a misdemeanor and subject to a fine of not less than $25.00 nor more than $100.00. It is generally supposed that the manufacturer only is subject to the above penalty. Manufacturers living within the State who violate the law are within the reach of this Department, and prosecutions for violations when they occur will be brought against them. It is to be regretted, however, that there are instances where manufacturers living outside of the State fail to comply with the law, especially that part of it which requires the filing of a copy of the analysis of the fertilizer sold and the payment of the license fee, before placing the same upon the market. Wherever these provisions of the law are not complied with, it becomes the duty of the Secretary of Agriculture to enforce the provisions of the Act.

In order that dealers and agents may be advised concerning this matter, we shall furnish a bulletin, containing a list of the manufacturers who have filed the required analysis and paid the legal license fee, together with the names of the several brands for which such fees have been paid. This will, in some measure, enable dealers to avoid making themselves liable to prosecution. The safer method to be pursued, however, is for the dealer, before purchasing goods from a manufacturer outside of the State, to require a guarantee that the manufacturer will reimburse him for any fines or costs that he may be obliged to pay on account of such manufacturer having failed to comply with the law of this State.

N. B. CRITCHFIELD,
Secretary of Agriculture.